

THE ASTROPHYSICAL JOURNAL

AUTHOR INDEX

PARTS 1 & 2, VOLUMES 606–608

2004 MAY 1 TO JUNE 20

- ABAD, C. See RENGSTORF, A. W., et al. New Quasars Detected via Variability in the QUEST1 Survey.
- ABE, F. See BOND, I. A., et al. OGLE 2003-BLG-235/MOA 2003-BLG-53: A Planetary Microlensing Event.
- ADAMS, B. See RENGSTORF, A. W., et al. New Quasars Detected via Variability in the QUEST1 Survey.
- ADAMS, FRED C. Type I Planetary Migration with Magnetohydrodynamic Turbulence. *Gregory Laughlin, Adriane Steinacker, & Fred C. Adams.* 608, 489 (2004)
- ADAMS, N. R. See WOLK, S. J., et al. Coronal Variability in the Young Cluster NGC 2516.
- ADELBERGER, KURT L. Optical Selection of Star-Forming Galaxies at Redshifts $1 < z < 3$. *Kurt L. Adelberger, Charles C. Steidel, Alice E. Shapley, Matthew P. Hunt, Dawn K. Erb, Naveen A. Reddy, & Max Pettini.* 607, 226 (2004)
- AGOL, E. *Chandra* Observations of the Cloverleaf Quasar H1413+117: A Unique Laboratory for Microlensing Studies of a LoBAL Quasar. *G. Chartas, M. Eracleous, E. Agol, & S. C. Gallagher.* 606, 78 (2004)
- AIKAWA, MASAYUKI. An Insight into the Reaction Rates of the Ne-Na and Mg-Al Chains from the Abundance Anomalies in Globular Cluster Red Giants. *Masayuki Aikawa, Masayuki Y. Fujimoto, & Kiyoshi Kato.* 608, 983 (2004)
- ALBARRÁN, MARNA Y. The Effects of Dust on Compact and Ultracompact H II Regions. *S. Jane Arthur, Stanley E. Kurtz, José Franco, & Marna Y. Albarrán.* 608, 282 (2004)
- ALBROW, MICHAEL D. Early Estimation of Microlensing Event Magnifications. *Michael D. Albrow.* 607, 821 (2004)
- ALEMAN, ISABEL. Molecular Hydrogen in the Ionized Region of Planetary Nebulae. *Isabel Aleman & Ruth Gruenwald.* 607, 865 (2004)
- ALEXANDER, TAL. Orbital Capture of Stars by a Massive Black Hole via Exchanges with Compact Remnants. *Tal Alexander & Mario Livio.* 606, L21 (2004)
- ALLAMANDOLA, L. J. The Mid-Infrared Laboratory Spectra of Naphthalene ($C_{10}H_8$) in Solid H_2O . *S. A. Sandford, M. P. Bernstein, & L. J. Allamandola.* 607, 346 (2004)
- ALLEN, RONALD J. The Production of H I in Photodissociation Regions and a Comparison with CO (1–0) Emission. *Ronald J. Allen, Harold I. Heaton, & Michael J. Kaufman.* 608, 314 (2004)
- ANANTHAKRISHNAN, S. Radio Observations of Rapid Acceleration in a Slow Filament Eruption/Fast Coronal Mass Ejection Event. *M. R. Kundu, S. M. White, V. I. Garaimov, P. K. Manoharan, P. Subramanian, S. Ananthakrishnan, & P. Janardhan.* 607, 530 (2004)
- ANDERSON, CHRISTOPHER M. Oxygen/Hydrogen Chemistry in the Inner Comae of Active Comets. *Robert J. Glinski, Brian J. Ford, Walter M. Harris, Christopher M. Anderson, & Jeffery P. Morganthaler.* 608, 601 (2004)
- ANDERSON, SCOTT F. See KLEINMAN, S. J., et al. A Catalog of Spectroscopically Identified White Dwarf Stars in the First Data Release of the Sloan Digital Sky Survey.
- ANDERSSON, B-G. A Hot Envelope around the Southern Coalsack: X-Ray and Far-Ultraviolet Observations. *B-G Andersson, David C. Knauth, S. L. Snowden, R. L. Shelton, & Peter G. Wannier.* 606, 341 (2004)
- ANDERSSON, K. E. Complex Structure of Galaxy Cluster A1689: Evidence for a Merger from X-Ray Data? *K. E. Andersson & G. M. Madejski.* 607, 190 (2004)
- ANDO, HIROYASU. Spectroscopic Studies of Extremely Metal-poor Stars with the Subaru High Dispersion Spectrograph. II. The r -Process Elements, Including Thorium. *Satoshi Honda, Wako Aoki, Toshitaka Kajino, Hiroyasu Ando, Timothy C. Beers, Hideyuki Iizumiura, Kozo Sadakane, & Masahide Takada-Hidai.* 607, 474 (2004)
- Oxygen Overabundance in the Extremely Iron-poor Star CS 29498–043. *Wako Aoki, John E. Norris, Sean G. Ryan, Timothy C. Beers, Norbert Christlieb, Stelios Tsangarides, & Hiroyasu Ando.* 608, 971 (2004)
- ANDO, SHIN'ICHIRO. Cosmic Star Formation History and the Future Observation of Supernova Relic Neutrinos. *Shin'ichiro Ando.* 607, 20 (2004)
- ANDREWS, P. See RENGSTORF, A. W., et al. New Quasars Detected via Variability in the QUEST1 Survey.
- ANDREWS, SEAN M. The Irradiated Herbig-Haro Jets near σ Orionis. *Sean M. Andrews, Bo Reipurth, John Bally, & Steve R. Heathcote.* 606, 353 (2004)
- ANDRIES, J. Damping of Coronal Loop Oscillations: Calculation of Resonantly Damped Kink Oscillations of One-Dimensional Nonuniform Loops. *T. Van Doorselaere, J. Andries, S. Poedts, & M. Goossens.* 606, 1223 (2004)
- ANNIS, JAMES. See TEGMARK, MAX, et al. The Three-dimensional Power Spectrum of Galaxies from the Sloan Digital Sky Survey.
- ANTIA, H. M. Constraining Solar Abundances Using Helioseismology. *Sarbani Basu & H. M. Antia.* 606, L85 (2004)
- ANTONELLI, L. A. Absorption in Gamma-Ray Burst Afterglows. *G. Stratta, F. Fiore, L. A. Antonelli, L. Piro, & M. De Pasquale.* 608, 846 (2004)
- ANTONI, T. Search for Cosmic-Ray Point Sources with KASCADE. *T. Antoni, W. D. Apel, A. F. Badea, K. Bekk, A. Bercuci, H. Blümer, H. Bozdog, I. M. Brancus, C. Büttner, K. Daumiller, P. Doll, R. Engel, J. Engler, F. Fessler, H. J. Gils, R. Glasstetter, A. Haungs, D. Heck, J. R. Hörandel, K. H. Kampert, H. O. Klages, G. Maier, H. J. Mathes, H. J. Mayer, J. Milke, M. Müller, R. Obenland, J. Oehlschläger, S. Ostapchenko, M. Petcu, H. Rebel, A. Risse, M. Risse, M. Roth, G. Schatz, H. Schieler, J. Scholz, T. Thouw, H. Ulrich, J. van Buren, A. Vardanyan, A. Weindl, J. Wochele, & J. Zabierowski.* 608, 865 (2004)
- AOKI, WAKO. Spectroscopic Studies of Extremely Metal-poor Stars with the Subaru High Dispersion Spectrograph. II. The r -Process Elements, Including Thorium. *Satoshi Honda, Wako Aoki, Toshitaka Kajino, Hiroyasu Ando, Timothy C. Beers, Hideyuki Iizumiura, Kozo Sadakane, & Masahide Takada-Hidai.* 607, 474 (2004)
- Oxygen Overabundance in the Extremely Iron-poor Star CS 29498–043. *Wako Aoki, John E. Norris, Sean G. Ryan, Timothy C. Beers, Norbert Christlieb, Stelios Tsangarides, & Hiroyasu Ando.* 608, 971 (2004)
- APAI, D. See GRADY, C. A., et al. The Environment of the Optically Brightest Herbig Ae Star, HD 104237.
- APEL, W. D. See ANTONI, T., et al. Search for Cosmic-Ray Point Sources with KASCADE.
- APPONI, A. J. Direct Measurement of the $N = 0 \rightarrow 1$ Transition of SH^+ ($X^3\Sigma^-$) by Submillimeter Velocity Modulation Spectroscopy. *C. Savage, A. J. Apponi, & L. M. Ziurys.* 608, L73 (2004)
- ARCE, HÉCTOR G. PV Cephei: Young Star Caught Speeding? *Alyssa A. Goodman & Héctor G. Arce.* 608, 831 (2004)
- ARENDT, R. Detecting Population III Stars through Observations of Near-Infrared Cosmic Infrared Background Anisotropies. *A. Kashlinsky, R. Arendt, Jonathan P. Gardner, J. Mather, & S. Harvey Moseley.* 608, 1 (2004)
- ARIAS, JULIA I. A CNO Dichotomy among O2 Giant Spectra in the Magellanic Clouds. *Nolan R. Walborn, Nidia I. Morrell, Ian D. Howarth, Paul A. Crowther, Daniel J. Lennon, Philip Massey, & Julia I. Arias.* 608, 1028 (2004)
- ARNABOLDI, M. See MURANTE, G., et al. The Diffuse Light in Simulations of Galaxy Clusters.
- ARRAS, P. Magnetars: Time Evolution, Superfluid Properties, and the Mechanism of Magnetic Field Decay. *P. Arras, A. Cumming, & C. Thompson.* 608, L49 (2004)
- ARRAS, PHIL. Seismology of the Accreting White Dwarf in GW Librae. *Dean M. Townsley, Phil Arras, & Lars Bildsten.* 608, L105 (2004)

- ARREGUI, I. Erratum: Magnetohydrodynamic Waves in Sheared Coronal Arcades (ApJ, 602, 1006 [2004]). *I. Arregui, R. Oliver, & J. L. Ballester*. 607, 1070 (2004) (Orig. paper in 602, 1006 (2004))
- ARTHUR, S. JANE. The Effects of Dust on Compact and Ultracompact H II Regions. *S. Jane Arthur, Stanley E. Kurtz, José Franco, & Marna Y. Albarrán*. 608, 282 (2004)
- ASAHARA, A. See TSUCHIYA, K., et al. Detection of Sub-TeV Gamma Rays from the Galactic Center Direction by CANGAROO-II. See KAWACHI, A., et al. A Search for TeV Gamma-Ray Emission from the PSR B1259–63/SS 2883 Binary System with the Cangaroo-II 10 m Telescope.
- ASAI, N. Magnetohydrodynamic Simulations of the Formation of Cold Fronts in Clusters of Galaxies Including Heat Conduction. *N. Asai, N. Fukuda, & R. Matsumoto*. 606, L105 (2004)
- ASCHWANDEN, MARKUS J. Pulsed Particle Injection in a Reconnection-Driven Dynamic Trap Model in Solar Flares. *Markus J. Aschwanden*. 608, 554 (2004)
- ASHBY, MATT L. N. See STARK, RONALD, et al. Probing the Early Stages of Low-Mass Star Formation in LDN 1689N: Dust and Water in IRAS 16293–2422A, B, and E.
- ASPIN, COLIN. IRAS 05436–0007 and the Emergence of McNeil's Nebula. *Bo Reipurth & Colin Aspin*. 606, L119 (2004)
- The FU Orionis Binary System and the Formation of Close Binaries. *Bo Reipurth & Colin Aspin*. 608, L65 (2004)
- ATKINS, R. TeV Gamma-Ray Survey of the Northern Hemisphere Sky Using the Milagro Observatory. *R. Atkins, W. Benbow, D. Berley, E. Blaufuss, J. Bussons, D. G. Coyne, T. DeYoung, B. L. Dingus, D. E. Dorfan, R. W. Ellsworth, L. Fleyscher, R. Fleyscher, G. Giesler, M. M. Gonzalez, J. A. Goodman, T. J. Haines, E. Hays, C. M. Hoffman, L. A. Kelley, C. P. Lansdell, J. T. Linnemann, J. E. McEnery, R. S. Miller, A. I. Mincer, M. F. Morales, P. Nemethy, D. Noyes, J. M. Ryan, F. W. Samuelson, A. Shoup, G. Sinis, A. J. Smith, G. W. Sullivan, D. A. Williams, S. Westerhoff, M. E. Wilson, X. W. Xu, & G. B. Yodh*. 608, 680 (2004)
- AYRES, THOMAS R. Positional Uncertainties and Detection Limits of ROSAT X-Ray Sources. *Thomas R. Ayres*. 608, 957 (2004)
- BACKER, D. C. Effect of Quasi-Orthogonal Emission Modes on the Rotation Measures of Pulsars. *R. Ramachandran, D. C. Backer, Joanna M. Rankin, J. M. Weisberg, & K. E. Devine*. 606, 1167 (2004)
- BADDEA, A. F. See ANTONI, T., et al. Search for Cosmic-Ray Point Sources with KASCADE.
- BADRAN, H. M. See KOSACK, K., et al. TeV Gamma-Ray Observations of the Galactic Center.
- BAHCALL, NETA A. See TEGMARK, MAX, et al. The Three-dimensional Power Spectrum of Galaxies from the Sloan Digital Sky Survey. See POPE, ADRIAN C., et al. Cosmological Parameters from Eigenmode Analysis of Sloan Digital Sky Survey Galaxy Redshifts. See ZEHAVI, IDIT, et al. On Departures from a Power Law in the Galaxy Correlation Function.
- BAILYN, C. See RENGSTORF, A. W., et al. New Quasars Detected via Variability in the QUEST1 Survey.
- BAILYN, C. D. See LIPKIN, Y. M., et al. The Detailed Optical Light Curve of GRB 030329. The Supernova Associated with GRB 031203: SMARTS Optical-Infrared Light Curves from 0.2 to 92 Days. *B. E. Cobb, C. D. Bailyn, P. G. van Dokkum, M. M. Buxton, & J. S. Bloom*. 608, L93 (2004)
- BAILYN, CHARLES D. Evolution of Spectral States of Aquila X-1 during the 2000 Outburst. *Dipankar Maitra & Charles D. Bailyn*. 608, 444 (2004)
- BALASUBRAMANIAM, K. S. Promises and Pitfalls of Solar Ho Zeeman Spectropolarimetry. *K. S. Balasubramaniam, E. B. Christopoulou, & H. Uitenbroek*. 606, 1233 (2004)
- Statistical Properties of Superpenumbral Whorls around Sunspots. *K. S. Balasubramaniam, Alexei Pevtsov, & Joey Rogers*. 608, 1148 (2004)
- BALBUS, STEVEN A. Local Axisymmetric Diffusive Stability of Weakly Magnetized, Differentially Rotating, Stratified Fluids. *Kristen Menou, Steven A. Balbus, & Henk C. Spruit*. 607, 564 (2004)
- BALLANTYNE, DAVID R. Photoevaporation of Circumstellar Disks around Young Stars. *Andreea S. Font, Ian G. McCarthy, Doug Johnstone, & David R. Ballantyne*. 607, 890 (2004)
- BALLESTER, J. L. Erratum: Magnetohydrodynamic Waves in Sheared Coronal Arcades (ApJ, 602, 1006 [2004]). *I. Arregui, R. Oliver, & J. L. Ballester*. 607, 1070 (2004) (Orig. paper in 602, 1006 (2004))
- BALLY, JOHN. The Irradiated Herbig-Haro Jets near σ Orionis. *Sean M. Andrews, Bo Reipurth, John Bally, & Steve R. Heathcote*. 606, 353 (2004)
- BALTAY, C. See RENGSTORF, A. W., et al. New Quasars Detected via Variability in the QUEST1 Survey.
- BARAI, P. Mass and Angular Momentum Transfer in the Massive Algol Binary RY Persei. *P. Barai, D. R. Gies, E. Choi, V. Das, R. Deo, W. Huang, K. Marshall, M. V. McSwain, C. Ogden, M. A. Osterman, R. L. Riddle, J. L. Seymour, Jr., D. W. Wingert, A. B. Kaye, & G. J. Peters*. 608, 989 (2004)
- BARKER, MICHAEL K. Variations in Star Formation History and the Red Giant Branch Tip. *Michael K. Barker, Ata Sarajedini, & Jason Harris*. 606, 869 (2004)
- BARLOW, E. J. See BIRD, A. J., et al. The First IBIS/ISGRI Soft Gamma-Ray Galactic Plane Survey Catalog.
- BARON, E. See BRANCH, DAVID, et al. Direct Analysis of Spectra of the Peculiar Type Ia Supernova 2000cx.
- BARSONY, M. See LIPKIN, Y. M., et al. The Detailed Optical Light Curve of GRB 030329.
- BARTH, AARON J. POX 52: A Dwarf Seyfert 1 Galaxy with an Intermediate-Mass Black Hole. *Aaron J. Barth, Luis C. Ho, Robert E. Rutledge, & Wallace L. W. Sargent*. 607, 90 (2004)
- BASILAKOS, S. The Clustering of XMM-Newton Hard X-Ray Sources. *S. Basilakos, A. Georgakakis, M. Plionis, & I. Georgantopoulos*. 607, L79 (2004)
- BASSANI, L. See BIRD, A. J., et al. The First IBIS/ISGRI Soft Gamma-Ray Galactic Plane Survey Catalog.
- BASSETT, BRUCE A. Cosmic Acceleration versus Axion-Photon Mixing. *Bruce A. Bassett & Martin Kunz*. 607, 661 (2004)
- BASU, SARBANI. Constraining Solar Abundances Using Helioseismology. *Sarbani Basu & H. M. Antia*. 606, L85 (2004)
- BASU, SHANTANU. Formation and Collapse of Nonaxisymmetric Protostellar Cores in Planar Magnetic Molecular Clouds. *Shantanu Basu & Glenn E. Colek*. 607, L39 (2004)
- BAUER, FRANZ E. Chandra Observations of the Three Most Metal Deficient Blue Compact Dwarf Galaxies Known in the Local Universe. *SBS 0335–052, SBS 0335–052W, and I Zw 18. Trinh X. Thuan, Franz E. Bauer, Polichronis Papaderos, & Yuri I. Izotov*. 606, 213 (2004)
- BAZZANO, A. See BIRD, A. J., et al. The First IBIS/ISGRI Soft Gamma-Ray Galactic Plane Survey Catalog.
- BECK, SARA C. See STARK, RONALD, et al. Probing the Early Stages of Low-Mass Star Formation in LDN 1689N: Dust and Water in IRAS 16293–2422A, B, and E.
- BECKER, ROBERT H. FIRST-2MASS Sources below the APM Detection Threshold: A Population of Highly Reddened Quasars. *Eilat Glikman, Michael D. Gregg, Mark Lacy, David J. Helfand, Robert H. Becker, & Richard L. White*. 607, 60 (2004)
- BECKLIN, E. E. Mid-Infrared Observations of van Maanen 2: No Substellar Companion. *J. Farihi, E. E. Becklin, & B. A. Macintosh*. 608, L109 (2004)
- BECKMANN, V. The Gamma-Ray Bright BL Lacertae Object RX J1211+2242. *V. Beckmann, P. Favre, F. Tavecchio, T. Bussien, J. Fliri, & A. Wolter*. 608, 692 (2004)
- BECKWITH, S. V. W. Hubble Space Telescope WFPC2 Study of the Trapezium Cluster: The Influence of Circumstellar Disks on the Initial Mass Function. *M. Robberto, J. Song, G. Mora Carrillo, S. V. W. Beckwith, R. B. Makidon, & N. Panagia*. 606, 952 (2004)
- BEERS, TIMOTHY C. Spectroscopic Studies of Extremely Metal-poor Stars with the Subaru High Dispersion Spectrograph. II. The *r*-Process Elements, Including Thorium. *Satoshi Honda, Wako Aoki, Toshitaka Kajino, Hiroyasu Ando, Timothy C. Beers, Hideyuki Izumiura, Kozo Sadakane, & Masahide Takada-Hidai*. 607, 474 (2004)
- Oxygen Overabundance in the Extremely Iron-poor Star CS 29498–043. *Wako Aoki, John E. Norris, Sean G. Ryan, Timothy C. Beers, Norbert Christlieb, Stelios Tsangarides, & Hiroyasu Ando*. 608, 971 (2004)
- BEGELMAN, MITCHELL C. On Multiwavelength Emission of Large-Scale Quasar Jets. *Lukasz Stawarz, Marek Sikora, Michał Ostrowski, & Mitchell C. Begelman*. 608, 95 (2004)
- BEIERSDORFER, P. See GU, M. F., et al. Laboratory Measurements of $3 \rightarrow 2$ X-Ray Emission Lines of Ne-like Ni XIX.
- BEKK, K. See ANTONI, T., et al. Search for Cosmic-Ray Point Sources with KASCADE.

- BELCZYNSKI, KRZYSZTOF. The First Stellar Binary Black Holes: The Strongest Gravitational Wave Burst Sources. *Krzysztof Belczynski, Tomasz Bulik, & Bronisław Rudak*. 608, L45 (2004)
- BELL, ERIC F. Nearly 5000 Distant Early-Type Galaxies in COMBO-17: A Red Sequence and Its Evolution since $z \sim 1$. *Eric F. Bell, Christian Wolf, Klaus Meisenheimer, Hans-Walter Rix, Andrea Borch, Simon Dye, Martina Kleinheinrich, Lutz Wisotzki, & Daniel H. McIntosh*. 608, 752 (2004)
- BELL, J. B. Direct Numerical Simulations of Type Ia Supernovae Flames. I. The Landau-Darrieus Instability. *J. B. Bell, M. S. Day, C. A. Rendleman, S. E. Woosley, & M. Zingale*. 606, 1029 (2004)
- Direct Numerical Simulations of Type Ia Supernovae Flames. II. The Rayleigh-Taylor Instability. *J. B. Bell, M. S. Day, C. A. Rendleman, S. E. Woosley, & M. Zingale*. 608, 883 (2004)
- BELLONI, T. See MILLER, J. M., et al. Evidence of Black Hole Spin in GX 339–4: *XMM-Newton*/EPIC-pn and *RXTE* Spectroscopy of the Very High State.
- BENBOW, W. See ATKINS, R., et al. TeV Gamma-Ray Survey of the Northern Hemisphere Sky Using the Milagro Observatory.
- BENDER, R. The Munich Near-Infrared Cluster Survey (MUNICS). VI. The Stellar Masses of *K*-Band-Selected Field Galaxies to $z \sim 1.2$. *N. Drory, R. Bender, G. Feulner, U. Hopp, C. Maraston, J. Snigula, & G. J. Hill*. 608, 742 (2004)
- BENITEZ, TITIXO. See RIESS, ADAM G., et al. Type Ia Supernova Discoveries at $z > 1$ from the *Hubble Space Telescope*: Evidence for Past Deceleration and Constraints on Dark Energy Evolution.
- BENNETT, C. L. See NOLTA, M. R., et al. First Year *Wilkinson Microwave Anisotropy Probe* Observations: Dark Energy Induced Correlation with Radio Sources.
- BENNETT, D. P. See BOND, I. A., et al. OGLE 2003-BLG-235/MOA 2003-BLG-53: A Planetary Microlensing Event.
- BERCUCI, A. See ANTONI, T., et al. Search for Cosmic-Ray Point Sources with KASCADE.
- BERGER, E. See LIPKIN, Y. M., et al. The Detailed Optical Light Curve of GRB 030329.
- See SODERBERG, A. M., et al. A Redshift Determination for XRF 020903: First Spectroscopic Observations of an X-Ray Flash.
- BERGERON, JACQUELINE. See NORMAN, COLIN, et al. The X-Ray-derived Cosmological Star Formation History and the Galaxy X-Ray Luminosity Functions in the *Chandra* Deep Fields North and South.
- BERGERON, P. A Helium White Dwarf of Extremely Low Mass. *James Liebert, P. Bergeron, Daniel Eisenstein, H. C. Harris, S. J. Kleinman, Atsuko Nitta, & Jurek Krzesinski*. 606, L147 (2004)
- BERLEY, D. See ATKINS, R., et al. TeV Gamma-Ray Survey of the Northern Hemisphere Sky Using the Milagro Observatory.
- BERLIND, ANDREAS. See TEGMARK, MAX, et al. The Three-dimensional Power Spectrum of Galaxies from the Sloan Digital Sky Survey.
- BERLIND, ANDREAS A. See ZEHAVI, IDIT, et al. On Departures from a Power Law in the Galaxy Correlation Function.
- BERLIND, P. See BRICEÑO, C., et al. McNeil's Nebula in Orion: The Outburst History.
- BERNSTEIN, LAWRENCE S. See LYNCH, DAVID K., et al. 0.8–13 Micron Spectroscopy of V838 Monocerotis and a Model for Its Emission.
- BERNSTEIN, M. P. The Mid-Infrared Laboratory Spectra of Naphthalene ($C_{10}H_8$) in Solid H_2O . *S. A. Sandford, M. P. Bernstein, & L. J. Allamandola*. 607, 346 (2004)
- BERNSTEIN, REBECCA A. The Formation of Dust Lanes: Implications for Galaxy Evolution. *Julianne J. Dalcanton, Peter Yoachim, & Rebecca A. Bernstein*. 608, 189 (2004)
- BERTELLO, L. See TURCK-CHIEZE, S., et al. Erratum: Looking for Gravity-Mode Multiplets with the GOLF Experiment aboard *SOHO* (ApJ, 604, 455 [2004]).
- BERTHOMIEU, G. See TURCK-CHIEZE, S., et al. Erratum: Looking for Gravity-Mode Multiplets with the GOLF Experiment aboard *SOHO* (ApJ, 604, 455 [2004]).
- BERTOLDI, F. The Faint Counterparts of Max-Planck-Millimeter-Bolometer (MAMBO) Millimeter Sources near the New Technology Telescope Deep Field. *H. Dannerbauer, M. D. Lehnert, D. Lutz, L. Tacconi, F. Bertoldi, C. Carilli, R. Genzel, & K. M. Menten*. 606, 664 (2004)
- BERTSCHINGER, EDMUND. The Harmonic Structure of High-Frequency Quasi-periodic Oscillations in Accreting Black Holes. *Jeremy D. Schnittman & Edmund Bertschinger*. 606, 1098 (2004)
- BEUTHER, H. Massive Molecular Outflows at High Spatial Resolution. *H. Beuther, P. Schilke, & F. Gueth*. 608, 330 (2004)
- BHARADWAJ, SOMNATH. The Size of the Longest Filaments in the Universe. *Somnath Bharadwaj, Suketu P. Bhavsar, & Jatish V. Sheth*. 606, 25 (2004)
- BHARAT, RAVI. A *Chandra* Observation of a TW Hydrae Association Brown Dwarf. *John E. Gizis & Ravi Bharat*. 608, L113 (2004)
- BHAVSAR, SUKETU P. The Size of the Longest Filaments in the Universe. *Somnath Bharadwaj, Suketu P. Bhavsar, & Jatish V. Sheth*. 606, 25 (2004)
- BIANCHI, LUCIANA. The Effective Temperatures of Hot Stars. II. The Early-O Types. *Miriam Garcia & Luciana Bianchi*. 606, 497 (2004)
- BICKNELL, G. V. See TSUCHIYA, K., et al. Detection of Sub-TeV Gamma Rays from the Galactic Center Direction by CANGAROO-II.
- See KAWACHI, A., et al. A Search for TeV Gamma-Ray Emission from the PSR B1259–63/SS 2883 Binary System with the Cangaroo-II 10 m Telescope.
- BIEBER, JOHN W. Probing Heliospheric Turbulence with Cosmic Rays: Theory. *Curt A. de Koning & John W. Bieber*. 606, 1200 (2004)
- BILDSTEN, LARS. Ultracompact Binaries as Bright X-Ray Sources in Elliptical Galaxies. *Lars Bildsten & Christopher J. Deloye*. 607, L119 (2004)
- Seismology of the Accreting White Dwarf in GW Librae. *Dean M. Townsley, Phil Arras, & Lars Bildsten*. 608, L105 (2004)
- BIRCH, A. C. Three-dimensional Inversion of Time-Distance Helioseismology Data: Ray-Path and Fresnel-Zone Approximations. *S. Couvidat, A. C. Birch, A. G. Kosovichev, & J. Zhao*. 607, 554 (2004)
- Sensitivity of Acoustic Wave Travel Times to Sound-Speed Perturbations in the Solar Interior. *A. C. Birch, A. G. Kosovichev, & T. L. Duvall, Jr.* 608, 580 (2004)
- BIRD, A. J. The First IBIS/ISGRI Soft Gamma-Ray Galactic Plane Survey Catalog. *A. J. Bird, E. J. Barlow, L. Bassani, A. Bazzano, A. Bodaghee, F. Capitanio, M. Cocchi, M. Del Santo, A. J. Dean, A. B. Hill, F. Lebrun, G. Malaguti, A. Malizia, R. Much, S. E. Shaw, J. B. Stephen, R. Terrier, P. Ubertini, & R. Walter*. 607, L33 (2004)
- BIRZAN, L. A Systematic Study of Radio-induced X-Ray Cavities in Clusters, Groups, and Galaxies. *L. Birzan, D. A. Rafferty, B. R. McNamara, M. W. Wise, & P. E. J. Nulsen*. 607, 800 (2004)
- BLAIR, WILLIAM P. *Far Ultraviolet Spectroscopic Explorer* Observations of Highly Ionized Gas in the Vela Supernova Remnant. *Jonathan D. Slavin, Joy S. Nichols, & William P. Blair*. 606, 900 (2004)
- BLAKE, C. Optical Limits on Precursor Emission from Gamma-Ray Bursts with Known Redshift. *C. Blake & J. S. Bloom*. 606, 1019 (2004)
- BLAKE, GEOFFREY A. High-Resolution 4.7 Micron Keck/NIRSPEC Spectroscopy of the CO Emission from the Disks Surrounding Herbig Ae Stars. *Geoffrey A. Blake & A. C. A. Boogert*. 606, L73 (2004)
- BLAKESLEE, J. P. See BOUWENS, R. J., et al. Star Formation at $z \sim 6$: The Hubble Ultra Deep Parallel Fields.
- BLANDFORD, R. See KOUVELIOTOU, C., et al. *Chandra* Observations of the X-Ray Environs of SN 1998bw/GRB 980425.
- BLANTON, MICHAEL R. See TEGMARK, MAX, et al. The Three-dimensional Power Spectrum of Galaxies from the Sloan Digital Sky Survey.
- See POPE, ADRIAN C., et al. Cosmological Parameters from Eigenmode Analysis of Sloan Digital Sky Survey Galaxy Redshifts.
- See ZEHAVI, IDIT, et al. On Departures from a Power Law in the Galaxy Correlation Function.
- BLAUFUSS, E. See ATKINS, R., et al. TeV Gamma-Ray Survey of the Northern Hemisphere Sky Using the Milagro Observatory.
- BLOOM, J. S. See LIPKIN, Y. M., et al. The Detailed Optical Light Curve of GRB 030329.
- Optical Limits on Precursor Emission from Gamma-Ray Bursts with Known Redshift. *C. Blake & J. S. Bloom*. 606, 1019 (2004)
- The Supernova Associated with GRB 031203: SMARTS Optical-Infrared Light Curves from 0.2 to 92 Days. *B. E. Cobb, C. D. Bailyn, P. G. van Dokkum, M. M. Buxton, & J. S. Bloom*. 608, L93 (2004)
- BLUMER, H. See ANTONI, T., et al. Search for Cosmic-Ray Point Sources with KASCADE.
- BOBOLTZ, D. A. Ground-State SiO Maser Emission toward Evolved Stars. *D. A. Boboltz & M. J. Claussen*. 608, 480 (2004)
- BOCK, JAMES J. First Star Signature in Infrared Background Anisotropies. *Asantha Cooray, James J. Bock, Brian Keating, Andrew E. Lange, & T. Matsumoto*. 606, 611 (2004)
- BODAGHEE, A. See BIRD, A. J., et al. The First IBIS/ISGRI Soft Gamma-Ray Galactic Plane Survey Catalog.

- BODE, PAUL. Giant Arc Statistics in Concord with a Concordance Lambda Cold Dark Matter Universe. *Joachim Wambsganss, Paul Bode, & Jeremiah P. Ostriker*. 606, L93 (2004)
- BODENHEIMER, PETER H. The Internal Structural Adjustment due to Tidal Heating of Short-Period Inflated Giant Planets. *Pin-Gao Gu, Peter H. Bodenheimer, & Douglas N. C. Lin*. 608, 1076 (2004)
- BODEWITS, D. Catching Some Sun: Probing the Solar Wind with Cometary X-Ray and Far-Ultraviolet Emission. *D. Bodewits, Z. Juhász, R. Hoekstra, & A. G. G. M. Tielens*. 606, L81 (2004)
- BOHM-VITENSE, ERIKA. The O VI and C III Lines at 1032 and 977 Å in Hyades F Stars. *Erika Böhm-Vitense, Richard D. Robinson, & Kenneth G. Carpenter*. 606, 1174 (2004)
- BORNER, G. The Three-Point Correlation Function of Galaxies Determined from the Two-Degree Field Galaxy Redshift Survey. *Y. P. Jing & G. Börner*. 607, 140 (2004)
- BOESGAARD, ANN MERCHANT. Boron Benchmarks for the Galactic Disk. *Ann Merchant Boesgaard, Elizabeth J. McGrath, David L. Lambert, & Katia Cunha*. 606, 306 (2004)
- BOLATTO, ALBERTO D. The Faintness of the 158 Micron [C II] Transition in the $z = 6.42$ Quasar SDSS J1148+5251. *Alberto D. Bolatto, James Di Francesco, & Chris J. Willott*. 606, L101 (2004)
- BOLTE, MICHAEL. The Luminosity Function and Color-Magnitude Diagram of the Globular Cluster M12. *Jonathan R. Hargis, Eric L. Sandquist, & Michael Bolte*. 608, 243 (2004)
- BONAMANTE, M. Nonthermal Hard X-Ray Emission in Galaxy Clusters Observed with the BeppoSAX Phoswich Detector System. *J. Nevalainen, T. Oosterbroek, M. Bonamante, & S. Colafrancesco*. 608, 166 (2004)
- BOND, I. A. OGLE 2003-BLG-235/MOA 2003-BLG-53: A Planetary Microlensing Event. *I. A. Bond, A. Udalski, M. Jaroszyński, N. J. Rattenbury, B. Paczyński, I. Soszyński, L. Wyrzykowski, M. K. Szymański, M. Kubiak, O. Szweczyk, K. Zebur, G. Pietrzyński, F. Abe, D. P. Bennett, S. Eguchi, Y. Furuta, J. B. Hearnshaw, K. Kamiya, P. M. Kilmartin, Y. Kurata, K. Masuda, Y. Matsubara, Y. Muraki, S. Noda, K. Okajima, T. Sako, T. Sekiguchi, D. J. Sullivan, T. Sumi, P. J. Tristram, T. Yanagisawa, & P. C. M. Yock*. 606, L155 (2004)
- BOND, I. H. See KOSACK, K., et al. TeV Gamma-Ray Observations of the Galactic Center.
- BONGIOVANNI, A. See RENGSTORF, A. W., et al. New Quasars Detected via Variability in the QUESTI Survey.
- BOGGERT, A. C. A. High-Resolution 4.7 Micron Keck/NIRSPEC Spectroscopy of the CO Emission from the Disks Surrounding Herbig Ae Stars. *Geoffrey A. Blake & A. C. A. Boggert*. 606, L73 (2004)
- BOONE, L. M. See SCALZO, R. A., et al. High-Energy Gamma-Ray Observations of W Comae with the Solar Tower Atmospheric Cerenkov Effect Experiment (STACEE).
- BOOTH, ROY S. Erratum: A Circumstellar Disk in a High-Mass Star-forming Region (ApJL, 603, L113 [2003]). *Michele R. Pestalozzi, Moshe Elitzur, John E. Conway, & Roy S. Booth*. 606, L173 (2004) (Orig. paper in 606, L173 (2004))
- BORCH, ANDREA. See BELL, ERIC F., et al. Nearly 5000 Distant Early-Type Galaxies in COMBO-17: A Red Sequence and Its Evolution since $z \sim 1$.
- BORGANI, S. Thermal Conduction in Simulated Galaxy Clusters. *K. Dolag, M. Jubelgas, V. Springel, S. Borgani, & E. Rasia*. 606, L97 (2004)
- See MURANTE, G., et al. The Diffuse Light in Simulations of Galaxy Clusters.
- BORYS, C. Further Multiwavelength Observations of the SSA 22 Ly α -emitting "Blob." *S. C. Chapman, D. Scott, R. A. Windhorst, D. T. Frayer, C. Borys, G. F. Lewis, & R. J. Ivison*. 606, 85 (2004)
- BOTHUN, GREGORY D. Companions to Isolated Elliptical Galaxies: Revisiting the Bothun-Sullivan Sample. *Barry F. Madore, Wendy L. Freedman, & Gregory D. Bothun*. 607, 810 (2004)
- BOUWENS, R. J. Star Formation at $z \sim 6$: The Hubble Ultra Deep Parallel Fields. *R. J. Bouwens, G. D. Illingworth, R. I. Thompson, J. P. Blakeslee, M. E. Dickinson, T. J. Broadhurst, D. J. Eisenstein, X. Fan, M. Franx, G. Meurer, & P. van Dokkum*. 606, L25 (2004)
- BOYCE, K. R. See GU, M. F., et al. Laboratory Measurements of $3 \rightarrow 2$ X-Ray Emission Lines of Ne-like Ni XIX.
- BOYD, P. Fine-Tuning the Accretion Disk Clock in Hercules X-1. *M. Still & P. Boyd*. 606, L135 (2004)
- BOYLE, BRIAN J. Gemini Imaging of QSO Host Galaxies at $z \sim 2$. *Scott M. Croom, David Schade, Brian J. Boyle, Tom Shanks, Lance Miller, & Robert J. Smith*. 606, 126 (2004)
- BOYLE, P. J. See KOSACK, K., et al. TeV Gamma-Ray Observations of the Galactic Center.
- BOZDOG, H. See ANTONI, T., et al. Search for Cosmic-Ray Point Sources with KASCADE.
- BRADBURY, S. M. See KOSACK, K., et al. TeV Gamma-Ray Observations of the Galactic Center.
- BRAMEL, D. See SCALZO, R. A., et al. High-Energy Gamma-Ray Observations of W Comae with the Solar Tower Atmospheric Cerenkov Effect Experiment (STACEE).
- BRANCH, DAVID. Direct Analysis of Spectra of the Peculiar Type Ia Supernova 2000cx. *David Branch, R. C. Thomas, E. Baron, Daniel Kasen, Kazuhiro Hatano, K. Nomoto, Alexei V. Filippenko, Weidong Li, & Richard J. Rudy*. 606, 413 (2004)
- BRANCUS, I. M. See ANTONI, T., et al. Search for Cosmic-Ray Point Sources with KASCADE.
- BRESOLIN, FABIO. The First Measured Electron Temperatures for Metal-rich H II Regions in M51. *Donald R. Garnett, Robert C. Kennicutt, Jr., & Fabio Bresolin*. 607, L21 (2004)
- The Physical Properties and Effective Temperature Scale of O-Type Stars as a Function of Metallicity. *I. A Sample of 20 Stars in the Magellanic Clouds. Philip Massey, Fabio Bresolin, Rolf P. Kudritzki, Joachim Puls, & A. W. A. Pauldrach*. 608, 1001 (2004)
- BRICEÑO, C. See RENGSTORF, A. W., et al. New Quasars Detected via Variability in the QUESTI Survey.
- McNeil's Nebula in Orion: The Outburst History. *C. Briceño, A. K. Vivas, J. Hernández, N. Calvet, L. Hartmann, T. Megeath, P. Berlind, M. Calkins, & S. Hoyer*. 606, L123 (2004)
- BRIGHTI, FABRIZIO. Ultralow Iron Abundances in the Distant Hot Gas in Galaxy Groups. *David A. Buote, Fabrizio Brighenti, & William G. Mathews*. 607, L91 (2004)
- BRINKMANN, J. See TEGMARK, MAX, et al. The Three-dimensional Power Spectrum of Galaxies from the Sloan Digital Sky Survey.
- See KLEINMAN, S. J., et al. A Catalog of Spectroscopically Identified White Dwarf Stars in the First Data Release of the Sloan Digital Sky Survey.
- See MUKADAM, ANJUM S., et al. Thirty-Five New Pulsating DA White Dwarf Stars.
- BRINKMANN, JON. See POPE, ADRIAN C., et al. Cosmological Parameters from Eigenmode Analysis of Sloan Digital Sky Survey Galaxy Redshifts.
- See ZEHAVI, IDIT, et al. On Departures from a Power Law in the Galaxy Correlation Function.
- BRITAIN, SEAN D. Interstellar H $^+$ Line Absorption toward LkH α 101. *Sean D. Britain, Theodore Simon, Craig Kulesa, & Terrence W. Rettig*. 606, 911 (2004)
- BROADHURST, T. J. See BOUWENS, R. J., et al. Star Formation at $z \sim 6$: The Hubble Ultra Deep Parallel Fields.
- BRONOWSKA, A. See REED, M. D., et al. Discovery of Gravity-Mode Pulsators among Subdwarf B Stars: PG 1716+426, the Class Prototype.
- BROWN, A. See GRADY, C. A., et al. The Environment of the Optically Brightest Herbig Ae Star, HD 104237.
- BROWN, G. V. See GU, M. F., et al. Laboratory Measurements of $3 \rightarrow 2$ X-Ray Emission Lines of Ne-like Ni XIX.
- BROWN, ROBERT A. Observational Completeness. *Robert A. Brown*. 607, 1003 (2004)
- BRUN, A. S. See TURCK-CHIEZE, S., et al. Erratum: Looking for Gravity-Mode Multiplets with the GOLF Experiment aboard SOHO (ApJ, 604, 455 [2004]).
- BRUZUAL, G. See RENGSTORF, A. W., et al. New Quasars Detected via Variability in the QUESTI Survey.
- BRYAN, GREG. Formation of Cool Cores in Galaxy Clusters via Hierarchical Mergers. *Patrick M. Motl, Jack O. Burns, Chris Loken, Michael L. Norman, & Greg Bryan*. 606, 635 (2004)
- BRYANT, GARNETT W. On the Importance of Local-Field Corrections for Polarizable Particles on a Finite Lattice: Application to the Discrete Dipole Approximation. *Adel Rahmani, Patrick C. Chaumet, & Garnett W. Bryant*. 607, 873 (2004)
- BUCCIARELLI, B. A General Relativistic Model of Light Propagation in the Gravitational Field of the Solar System: The Static Case. *F. de Felice, M. T. Crosta, A. Vecchiato, M. G. Lattanzi, & B.ucciarelli*. 607, 580 (2004)
- BUCKLEY, J. H. See KOSACK, K., et al. TeV Gamma-Ray Observations of the Galactic Center.
- BUDAVARI, TAMÁS. See TEGMARK, MAX, et al. The Three-dimensional Power Spectrum of Galaxies from the Sloan Digital Sky Survey.

- See POPE, ADRIAN C., et al. Cosmological Parameters from Eigenmode Analysis of Sloan Digital Sky Survey Galaxy Redshifts.
- BÜTTNER, C. See ANTONI, T., et al. Search for Cosmic-Ray Point Sources with KASCADE.
- BULIK, TOMASZ. The First Stellar Binary Black Holes: The Strongest Gravitational Wave Burst Sources. *Krzysztof Belczynski, Tomasz Bulik, & Bronislaw Rudak*. 608, L45 (2004)
- BUNKER, ANDREW J. Spectroscopic Gravitational Lensing and Limits on the Dark Matter Substructure in Q2237+0305. *R. Benton Metcalf, Leonidas A. Moustakas, Andrew J. Bunker, & Ian R. Parry*. 607, 43 (2004)
- Hubble Space Telescope* Imaging and Keck Spectroscopy of $z \approx 6$ i -Band Dropout Galaxies in the Advanced Camera for Surveys GOODS Fields. *Elizabeth R. Stanway, Andrew J. Bunker, Richard G. McMahon, Richard S. Ellis, Tommaso Treu, & Patrick J. McCarthy*. 607, 704 (2004)
- BUOTE, DAVID A. Ultralow Iron Abundances in the Distant Hot Gas in Galaxy Groups. *David A. Buote, Fabrizio Brighenti, & William G. Mathews*. 607, L91 (2004)
- BUREAU, M. See LIPKIN, Y. M., et al. The Detailed Optical Light Curve of GRB 030329.
- BURKEPILE, JOAN T. A Comparison of CME-Associated Atmospheric Waves Observed in Coronal (Fe XII 195 Å) and Chromospheric (He I 10830 Å) Lines. *Holly R. Gilbert, Thomas E. Holzer, Barbara J. Thompson, & Joan T. Burkepile*. 607, 540 (2004)
- BURLES, SCOTT. See TEGMARK, MAX, et al. The Three-dimensional Power Spectrum of Galaxies from the Sloan Digital Sky Survey.
- See ZEHAVI, IDIT, et al. On Departures from a Power Law in the Galaxy Correlation Function.
- BURNETTE, ANDREW B. Photospheric and Coronal Currents in Solar Active Regions. *Andrew B. Burnette, Richard C. Canfield, & Alexei A. Pevtsov*. 606, 565 (2004)
- BURNS, JACK O. Formation of Cool Cores in Galaxy Clusters via Hierarchical Mergers. *Patrick M. Motl, Jack O. Burns, Chris Loken, Michael L. Norman, & Greg Bryan*. 606, 635 (2004)
- BURROWS, DAVID N. An X-Ray Measurement of Titan's Atmospheric Extent from Its Transit of the Crab Nebula. *Koji Mori, Hiroshi Tsunemi, Haruyoshi Katayama, David N. Burrows, Gordon P. Garmire, & Albert E. Metzger*. 607, 1065 (2004)
- BUSSIAN, T. The Gamma-Ray Bright BL Lacertae Object RX J1211+2242. *V. Beckmann, P. Favre, F. Tavecchio, T. Bussian, J. Fliri, & A. Wolter*. 608, 692 (2004)
- BUSSON, J. See ATKINS, R., et al. TeV Gamma-Ray Survey of the Northern Hemisphere Sky Using the Milagro Observatory.
- BUTA, RONALD. Comparison of Bar Strengths and Fractions of Bars in Active and Nonactive Galaxies. *Eija Laurikainen, Heikki Salo, & Ronald Buta*. 607, 103 (2004)
- BUTLER, KEITH. Chemical Abundances for a Sample of Southern OB Stars. II. The Outer Disk. *Simone Daflon, Katia Cunha, & Keith Butler*. 606, 514 (2004)
- BUXTON, M. M. See LIPKIN, Y. M., et al. The Detailed Optical Light Curve of GRB 030329.
- The Supernova Associated with GRB 031203: SMARTS Optical-Infrared Light Curves from 0.2 to 92 Days. *B. E. Cobb, C. D. Bailyn, P. G. van Dokkum, M. M. Buxton, & J. S. Bloom*. 608, L93 (2004)
- CABELLA, PAOLO. Asymmetries in the Local Curvature of the Wilkinson Microwave Anisotropy Probe Data. *Frode K. Hansen, Paolo Cabella, Domenico Marinucci, & Nicola Vittorio*. 607, L67 (2004)
- CALKINS, M. See BRICEÑO, C., et al. McNeil's Nebula in Orion: The Outburst History.
- CALLERAME, K. See REED, M. D., et al. Discovery of Gravity-Mode Pulsators among Subdwarf B Stars: PG 1716+426, the Class Prototype.
- CALVET, N. See BRICEÑO, C., et al. McNeil's Nebula in Orion: The Outburst History.
- CAMERON, ROBERT. Distribution of Faraday Rotation Measure in Jets from Active Galactic Nuclei. II. Prediction from our Sweeping Magnetic Twist Model for the Wiggled Parts of Active Galactic Nucleus Jets and Tails. *Hiromitsu Kigure, Yutaka Uchida, Masanori Nakamura, Shigenobu Hirose, & Robert Cameron*. 608, 119 (2004)
- CANFIELD, RICHARD C. Photospheric and Coronal Currents in Solar Active Regions. *Andrew B. Burnette, Richard C. Canfield, & Alexei A. Pevtsov*. 606, 565 (2004)
- CANNON, JOHN M. The Complex Neutral Gas Dynamics of the Dwarf Starburst Galaxy NGC 625. *John M. Cannon, N. M. McClure-Griffiths, Evan D. Skillman, & Stéphanie Côté*. 607, 274 (2004)
- Extended Tidal Structure in Two Ly α -Emitting Starburst Galaxies. *John M. Cannon, Evan D. Skillman, Daniel Kunth, Claus Leitherer, Miguel Mas-Hesse, Göran Östlin, & Artashes Petrosian*. 608, 768 (2004)
- CAO, WENDA. Near-Infrared Observations at 1.56 Microns of the 2003 October 29 X10 White-Light Flare. *Yan Xu, Wenda Cao, Chang Liu, Guo Yang, Jiong Qiu, Ju Jing, Carsten Denker, & Haimin Wang*. 607, L131 (2004)
- CAPITANIO, F. See BIRD, A. J., et al. The First IBIS/ISGR1 Soft Gamma-Ray Galactic Plane Survey Catalog.
- CAPPELLARO, E. The Rates of Hypernovae and Gamma-Ray Bursts: Implications for Their Progenitors. *Ph. Podsiadlowski, P. A. Mazzali, K. Nomoto, D. Lazzati, & E. Cappellaro*. 607, L17 (2004)
- CARILLI, C. The Faint Counterparts of Max-Planck-Millimeter-Bolometer (MAMBO) Millimeter Sources near the New Technology Telescope Deep Field. *H. Dannerbauer, M. D. Lehnert, D. Lutz, L. Tacconi, F. Bertoldi, C. Carilli, R. Genzel, & K. M. Menten*. 606, 664 (2004)
- CARLSTROM, JOHN E. A Deep Chandra Observation of the Distant Galaxy Cluster MS 1137.5+6625. *Laura Grego, Jan M. Vrtillek, Leon Van Speybroeck, Laurence P. David, William Forman, John E. Carlstrom, Erik D. Reese, & Marshall K. Joy*. 608, 731 (2004)
- CARPENTER, KENNETH G. The O VI and C III Lines at 1032 and 977 Å in Hyades F Stars. *Erika Böhm-Vitense, Richard D. Robinson, & Kenneth G. Carpenter*. 606, 1174 (2004)
- CARSON, J. See SCALZO, R. A., et al. High-Energy Gamma-Ray Observations of W Comae with the Solar Tower Atmospheric Cerenkov Effect Experiment (STACEE).
- CARTER-LEWIS, D. A. See KOSACK, K., et al. TeV Gamma-Ray Observations of the Galactic Center.
- CASELLI, P. Detection of H₂D⁺: Measuring the Midplane Degree of Ionization in the Disks of DM Tauri and TW Hydrae. *C. Ceccarelli, C. Dominik, B. Lefloch, P. Caselli, & E. Caux*. 607, L51 (2004)
- CASERTANO, STEFANO. See RIESS, ADAM G., et al. Type Ia Supernova Discoveries at $z > 1$ from the *Hubble Space Telescope*: Evidence for Past Deceleration and Constraints on Dark Energy Evolution.
- CASTANDER, FRANCISCO J. See TEGMARK, MAX, et al. The Three-dimensional Power Spectrum of Galaxies from the Sloan Digital Sky Survey.
- CAUX, E. Detection of H₂D⁺: Measuring the Midplane Degree of Ionization in the Disks of DM Tauri and TW Hydrae. *C. Ceccarelli, C. Dominik, B. Lefloch, P. Caselli, & E. Caux*. 607, L51 (2004)
- CAVALIERE, A. X-Ray Evolution of Active Galactic Nuclei and Hierarchical Galaxy Formation. *N. Menci, F. Fiore, G. C. Perola, & A. Cavaliere*. 606, 58 (2004)
- CECCARELLI, C. Detection of H₂D⁺: Measuring the Midplane Degree of Ionization in the Disks of DM Tauri and TW Hydrae. *C. Ceccarelli, C. Dominik, B. Lefloch, P. Caselli, & E. Caux*. 607, L51 (2004)
- CELIK, O. See KOSACK, K., et al. TeV Gamma-Ray Observations of the Galactic Center.
- CERNICARO, JOSÉ. The Polymerization of Acetylene, Hydrogen Cyanide, and Carbon Chains in the Neutral Layers of C-rich Proto-planetary Nebulae. *José Cernicharo*. 608, L41 (2004)
- CERUTTI, R. A Survey of Extended Radio Jets with Chandra and the Hubble Space Telescope. *Rita M. Sambruna, Jessica K. Gambill, L. Maraschi, F. Tavecchio, R. Cerutti, C. C. Cheung, C. Megan Urry, & G. Chartas*. 608, 698 (2004)
- CHAE, KYU-HYUN. Constraints on Scalar-Field Dark Energy from the Cosmic Lens All-Sky Survey Gravitational Lens Statistics. *Kyu-Hyun Chae, Gang Chen, Bharat Ratna, & Dong-Wook Lee*. 607, L71 (2004)
- CHAKRABARTI, SANDIP K. Evidence of Class Transitions in GRS 1915+105 from Indian X-Ray Astronomy Experiment Data. *Sandip K. Chakrabarti, A. Nandi, Asit Choudhury, & Utpal Chatterjee*. 607, 406 (2004)
- CHAKRABARTY, DEEPTO. The Effect of Neutron Star Rotation on the Properties of Thermonuclear X-Ray Bursts. *Michael P. Muno, Duncan K. Galloway, & Deepto Chakrabarty*. 608, 930 (2004)
- CHAKRABARTY, ABHIJIT. Evidence of Planetsimal Infall onto the Very Young Herbig Be Star LkHa 234. *Abhijit Chakraborty, Jian Ge, & Suvrat Mahadevan*. 606, L69 (2004)
- CHALLIS, PETER. See RIESS, ADAM G., et al. Type Ia Supernova Discoveries at $z > 1$ from the *Hubble Space Telescope*: Evidence for Past Deceleration and Constraints on Dark Energy Evolution.

- CHAPMAN, S. C. Further Multiwavelength Observations of the SSA 22 Ly α -emitting "Blob." *S. C. Chapman, D. Scott, R. A. Windhorst, D. T. Frayer, C. Borys, G. F. Lewis, & R. J. Ivison.* 606, 85 (2004)
- CHARLES, P. A. See MILLER, J. M., et al. Evidence of Black Hole Spin in GX 339-4: *XMM-Newton/EPIC-pn and RXTE Spectroscopy of the Very High State.*
- CHARLTON, JANE C. The Absorption Signatures of Dwarf Galaxies: The $z = 1.04$ Multicloud Weak Mg II Absorber toward PG 1634+706. *Stephanie G. Zonak, Jane C. Charlton, Jie Ding, & Christopher W. Churchill.* 606, 196 (2004)
- CHARTAS, G. *Chandra* Observations of the Cloverleaf Quasar H1413+117: A Unique Laboratory for Microlensing Studies of a LoBAL Quasar. *G. Chartas, M. Eracleous, E. Agol, & S. C. Gallagher.* 606, 78 (2004)
- A Survey of Extended Radio Jets with *Chandra* and the *Hubble Space Telescope*. *Rita M. Sambruna, Jessica K. Gambill, L. Maraschi, F. Tavecchio, R. Cerutti, C. C. Cheung, C. Megan Urry, & G. Chartas.* 608, 698 (2004)
- CHATTERJEE, UTPAL. Evidence of Class Transitions in GRS 1915+105 from Indian X-Ray Astronomy Experiment Data. *Sandip K. Chakrabarti, A. Nandi, Asit Choudhury, & Utpal Chatterjee.* 607, 406 (2004)
- CHAUMET, PATRICK C. On the Importance of Local-Field Corrections for Polarizable Particles on a Finite Lattice: Application to the Discrete Dipole Approximation. *Adel Rahmani, Patrick C. Chaumet, & Garnett W. Bryant.* 607, 873 (2004)
- CHEN, ANDREW. Detecting the Attenuation of Blazar Gamma-Ray Emission by Extragalactic Background Light with the *Gamma-Ray Large Area Space Telescope*. *Andrew Chen, Luis C. Reyes, & Steven Ritz.* 608, 686 (2004)
- CHEN, GANG. Constraints on Scalar-Field Dark Energy from the Cosmic Lens All-Sky Survey Gravitational Lens Statistics. *Kyu-Hyun Chae, Gang Chen, Bharat Ratra, & Dong-Wook Lee.* 607, L71 (2004)
- CHEN, H. See GU, M. F., et al. Laboratory Measurements of $3 \rightarrow 2$ X-Ray Emission Lines of Ne-like Ni XIX.
- CHENG, K. S. Gamma-Ray Emission Properties from Mature Pulsars in the Galaxy and in the Gould Belt. *K. S. Cheng, L. Zhang, P. Leung, & Z. J. Jiang.* 608, 418 (2004)
- The Effects of Rotation on Thermal X-Ray Afterglows Resulting from Pulsar Glitches. *C. Y. Hui & K. S. Cheng.* 608, 935 (2004)
- Nucleation of Quark Matter in Neutron Star Cores. *T. Harko, K. S. Cheng, & P. S. Tang.* 608, 945 (2004)
- CHENG, L. M. See MURANTE, G., et al. The Diffuse Light in Simulations of Galaxy Clusters.
- CHEUNG, C. C. A Survey of Extended Radio Jets with *Chandra* and the *Hubble Space Telescope*. *Rita M. Sambruna, Jessica K. Gambill, L. Maraschi, F. Tavecchio, R. Cerutti, C. C. Cheung, C. Megan Urry, & G. Chartas.* 608, 698 (2004)
- CHEVALIER, ROGER A. The Diversity of Gamma-Ray Burst Afterglows and the Surroundings of Massive Stars. *Roger A. Chevalier, Zhi-Yun Li, & Claes Fransson.* 606, 369 (2004)
- CHIANG, EUGENE I. The Circumbinary Ring of KH 15D. *Eugene I. Chiang & Ruth A. Murray-Clay.* 607, 913 (2004)
- CHIEFFI, ALESSANDRO. Explosive Yields of Massive Stars from $Z = 0$ to $Z = Z_{\odot}$. *Alessandro Chieffi & Marco Limongi.* 608, 405 (2004)
- CHIUH, TZIHONG. Effects of Preheated Clusters on the Cosmic Microwave Background Spectrum. *Kai-Yang Lin, Tak-Pong Woo, Yao-Huan Tseng, Lihwai Lin, & Tzihong Chiu.* 608, L1 (2004)
- CHODAS, PAUL W. Fragmentation Hierarchy of Bright Sungrazing Comets and the Birth and Orbital Evolution of the Kreutz System. I. Two-Superfragment Model. *Zdenek Sekanina & Paul W. Chodas.* 607, 620 (2004)
- CHOI, E. See BARAI, P., et al. Mass and Angular Momentum Transfer in the Massive Algol Binary RY Persei.
- CHOI, YUN-YOUNG. Observations of A4059 with the *Chandra, Hubble Space Telescope*, and the Very Large Array: Unraveling a Complex Cluster/Radio Galaxy Interaction. *Yun-Young Choi, Christopher S. Reynolds, Sebastian Heinz, Jessica L. Rosenberg, Eric S. Perlman, & Jongmann Yang.* 606, 185 (2004)
- CHORNOCK, RYAN. See RIESS, ADAM G., et al. Type Ia Supernova Discoveries at $z > 1$ from the *Hubble Space Telescope*: Evidence for Past Deceleration and Constraints on Dark Energy Evolution.
- CHOUDHURY, ASIT. Evidence of Class Transitions in GRS 1915+105 from Indian X-Ray Astronomy Experiment Data. *Sandip K. Chakrabarti, A. Nandi, Asit Choudhury, & Utpal Chatterjee.* 607, 406 (2004)
- CHRISTLIEB, NORBERT. Oxygen Overabundance in the Extremely Iron-poor Star CS 29498-043. *Wako Aoki, John E. Norris, Sean G. Ryan, Timothy C. Beers, Norbert Christlieb, Stelios Tsangarides, & Hiroyasu Ando.* 608, 971 (2004)
- CHRISTOPOULOU, E. B. Promises and Pitfalls of Solar H α Zeeman Spectropolarimetry. *K. S. Balasubramanian, E. B. Christopoulou, & H. Uitenbroek.* 606, 1233 (2004)
- CHUNG, SUN MI. Doppler Shifts and Broadening and the Structure of the X-Ray Emission from Algol. *Sun Mi Chung, Jeremy J. Drake, Vinay L. Kashyap, Li Wei Lin, & Peter W. Ratcliff.* 606, 1184 (2004)
- CHURCHES, DAVID K. On Constraining the Smoothed Particle Hydrodynamics Kernel Radius in Galaxy Simulations. *Peter R. Williams, David K. Churches, & Alistair H. Nelson.* 607, 1 (2004)
- CHURCHILL, CHRISTOPHER W. The Absorption Signatures of Dwarf Galaxies: The $z = 1.04$ Multicloud Weak Mg II Absorber toward PG 1634+706. *Stephanie G. Zonak, Jane C. Charlton, Jie Ding, & Christopher W. Churchill.* 606, 196 (2004)
- CHURCHWELL, E. Kelvin-Helmholtz Instability in a Weakly Ionized Medium. *C. Watson, E. G. Zweibel, F. Heitsch, & E. Churchwell.* 608, 274 (2004)
- CIARAVELLA, A. Densities and Velocities in Fast Coronal Mass Ejections: Radiative Pumping of the O VI Doublet. *J. C. Raymond & A. Ciaravella.* 606, L159 (2004)
- CIMATTI, A. Metal Enrichment in Near-Infrared Luminous Galaxies at $z \sim 2$: Signatures of Proto-Elliptical Galaxies? *D. F. de Mello, E. Daddi, A. Renzini, A. Cimatti, S. di Serego Alighieri, L. Pozzetti, & G. Zamorani.* 608, L29 (2004)
- CIOLEK, GLENN E. Formation and Collapse of Nonaxisymmetric Protostellar Cores in Planar Magnetic Molecular Clouds. *Shantanu Basu & Glenn E. Ciolek.* 607, L39 (2004)
- CIOTTI, LUCA. Reasoning From Fossils: Learning From the Local Black Hole Population About the Evolution of Quasars. *Zoltan Haiman, Luca Ciotti, & Jeremiah P. Ostriker.* 606, 763 (2004)
- CLARK, L. LEE. A Search for Short-Timescale Microvariability in Active Galactic Nuclei in the Ultraviolet. *Joseph F. Dolan & L. Lee Clark.* 607, 84 (2004)
- CLAUSSEN, M. J. Ground-State SiO Maser Emission toward Evolved Stars. *D. A. Boboltz & M. J. Claussen.* 608, 480 (2004)
- CLAY, R. W. See TSUCHIYA, K., et al. Detection of Sub-TeV Gamma Rays from the Galactic Center Direction by CANGAROO-II.
- See KAWACHI, A., et al. A Search for TeV Gamma-Ray Emission from the PSR B1259-63/SS 2883 Binary System with the Cangaroo-II 10 m Telescope.
- CLOWE, D. Direct Constraints on the Dark Matter Self-Interaction Cross Section from the Merging Galaxy Cluster 1E 0657-56. *M. Markevitch, A. H. Gonzalez, D. Clowe, A. Vikhlinin, W. Forman, C. Jones, S. Murray, & W. Tucker.* 606, 819 (2004)
- COBB, B. E. The Supernova Associated with GRB 031203: SMARTS Optical-Infrared Light Curves from 0.2 to 92 Days. *B. E. Cobb, C. D. Bailyn, P. G. van Dokkum, M. M. Buxton, & J. S. Bloom.* 608, L93 (2004)
- COCCHI, M. See BIRD, A. J., et al. The First IBIS/ISGRI Soft Gamma-Ray Galactic Plane Survey Catalog.
- COCHRAN, ANITA L. Using the Ultraviolet and Visible Spectrum of Comet 122P/de Vico to Identify the Parent Molecule CS₂. *William M. Jackson, Alessandra Scodinu, Dadong Xu, & Anita L. Cochran.* 607, L139 (2004)
- COHN, J. D. The Effects of Massive Substructures on Image Multiplicities in Gravitational Lenses. *J. D. Cohn & C. S. Kochanek.* 608, 25 (2004)
- COIL, ALISON L. Mock Catalogs for the DEEP2 Redshift Survey. *Renbin Yan, Martin White, & Alison L. Coil.* 607, 739 (2004)
- COLAFRANCESCO, S. Nonthermal Hard X-Ray Emission in Galaxy Clusters Observed with the *BeppoSAX* Phoswich Detector System. *J. Nevalainen, T. Oosterbroek, M. Bonamente, & S. Colafrancesco.* 608, 166 (2004)
- COLBERT, E. The Statistical Properties of Galaxies Containing Ultraluminous X-Ray Objects. *A. Ptak & E. Colbert.* 606, 291 (2004)
- COLBERT, EDWARD J. M. A High Spatial Resolution X-Ray and H α Study of Hot Gas in the Halos of Star-Forming Disk Galaxies. II. Quantifying Supernova Feedback. *David K. Strickland, Timothy M. Heckman, Edward J. M. Colbert, Charles G. Hoopes, & Kimberly A. Weaver.* 606, 829 (2004)
- COLLINGE, MATTHEW J. See KLEINMAN, S. J., et al. A Catalog of Spectroscopically Identified White Dwarf Stars in the First Data Release of the Sloan Digital Sky Survey.
- COLLINS, N. R. See GRADY, C. A., et al. The Environment of the Optically Brightest Herbig Ae Star, HD 104237.

- COMASTRI, A. Stellar and Gaseous Abundances in M82. *L. Origlia, P. Ranalli, A. Comastri, & R. Maiolino.* 606, 862 (2004)
- COMASTRI, ANDREA. See NORMAN, COLIN, et al. The X-Ray-derived Cosmological Star Formation History and the Galaxy X-Ray Luminosity Functions in the *Chandra* Deep Fields North and South.
- COMBES, FRANCOISE. Flat-cored Dark Matter in Cuspy Clusters of Galaxies. *Amr A. El-Zant, Yehuda Hoffman, Joel Primack, Francoise Combes, & Isaac Shlosman.* 607, L75 (2004)
- CONNAUGHTON, V. See KOSACK, K., et al. TeV Gamma-Ray Observations of the Galactic Center.
- CONNOLLY, ANDREW. See TEGMARK, MAX, et al. The Three-dimensional Power Spectrum of Galaxies from the Sloan Digital Sky Survey.
- CONNOLLY, ANDREW J. See POPE, ADRIAN C., et al. Cosmological Parameters from Eigenmode Analysis of Sloan Digital Sky Survey Galaxy Redshifts.
- CONWAY, JOHN E. Erratum: A Circumstellar Disk in a High-Mass Star-forming Region (ApJ, 603, L113 [2003]). *Michele R. Pestalozzi, Moshe Elitzur, John E. Conway, & Roy S. Booth.* 606, L173 (2004) (Orig. paper in 606, L173 (2004))
- COOK, K. H. Resolving the Nature of the Large Magellanic Cloud Microlensing Event MACHO-LMC-5. *A. J. Drake, K. H. Cook, & S. C. Keller.* 607, L29 (2004)
- COORAY, ASANTHA. Free-Free Emission at Low Radio Frequencies. *Asantha Cooray & Steven R. Furlanetto.* 606, L5 (2004)
- First Star Signature in Infrared Background Anisotropies. *Asantha Cooray, James J. Bock, Brian Keating, Andrew E. Lange, & T. Matsumoto.* 606, 611 (2004)
- COPPI, P. See RENGSTORF, A. W., et al. New Quasars Detected via Variability in the QUEST1 Survey.
- COPPI, PAOLO S. The Role of Gas in the Merging of Massive Black Holes in Galactic Nuclei. I. Black Hole Merging in a Spherical Gas Cloud. *Andrés Escala, Richard B. Larson, Paolo S. Coppi, & Diego Mardones.* 607, 765 (2004)
- CORCORAN, MICHAEL F. *Chandra* Observation of the Trifid Nebula: X-Ray Emission from the O Star Complex and Actively Forming Pre-Main-Sequence Stars. *Jeonghee Rho, Solange V. Ramirez, Michael F. Corcoran, Kenji Hamaguchi, & Bertrand Lefloch.* 607, 904 (2004)
- An X-Ray Investigation of the NGC 346 Field in the Small Magellanic Cloud. III. *XMM-Newton* Data. *Yaël Nazé, Jean Manfroid, Ian R. Stevens, Michael F. Corcoran, & Aaron Flores.* 608, 208 (2004)
- CORDES, O. See REED, M. D., et al. Discovery of Gravity-Mode Pulsators among Subdwarf B Stars: PG 1716+426, the Class Prototype.
- CORDOVA, F. A. Relativistic O VIII Emission and Ionized Outflow in NGC 4051 Measured with *XMM-Newton*. *P. M. Ogle, K. O. Mason, M. J. Page, N. J. Salvi, F. A. Cordova, I. M. McHardy, & W. C. Priedhorsky.* 606, 151 (2004)
- CORTÉS, T. ROCA. See TURCK-CHIEZE, S., et al. Erratum: Looking for Gravity-Mode Multiplets with the GOLF Experiment aboard *SOHO* (ApJ, 604, 455 [2004]).
- COSBY, PHILIP C. Measurements of the Singly Ionized Oxygen Auroral Doublet Lines $\lambda\lambda 7320, 7330$ Using High-Resolution Sky Spectra. *Brian D. Sharpee, Tom G. Slanger, David L. Huestis, & Philip C. Cosby.* 606, 605 (2004)
- CÔTÉ, PATRICK. X-Ray and Optical Filaments in M87. *William B. Sparks, Megan Donahue, Andrés Jordán, Laura Ferrarese, & Patrick Côté.* 607, 294 (2004)
- CÔTÉ, STÉPHANIE. The Complex Neutral Gas Dynamics of the Dwarf Starburst Galaxy NGC 625. *John M. Cannon, N. M. McClure-Griffiths, Evan D. Skillman, & Stéphanie Côté.* 607, 274 (2004)
- COTTER, C. See MUKADAM, ANJUM S., et al. Thirty-Five New Pulsating DA White Dwarf Stars.
- COURTEAU, STÉPHANE. The Identification of Blue Horizontal-Branch Stars in the Integrated Spectra of Globular Clusters. *Ricardo P. Schiavon, James A. Rose, Stéphane Courteau, & Lauren A. MacArthur.* 608, L33 (2004)
- COUVIDAT, S. Three-dimensional Inversion of Time-Distance Helioseismology Data: Ray-Path and Fresnel-Zone Approximations. *S. Couvidat, A. C. Birch, A. G. Kosovichev, & J. Zhao.* 607, 554 (2004)
- See TURCK-CHIEZE, S., et al. Erratum: Looking for Gravity-Mode Multiplets with the GOLF Experiment aboard *SOHO* (ApJ, 604, 455 [2004]).
- COVAULT, C. E. See SCALZO, R. A., et al. High-Energy Gamma-Ray Observations of W Comae with the Solar Tower Atmospheric Cerenkov Effect Experiment (STACEE).
- COX, T. J. Generating Hot Gas in Simulations of Disk-Galaxy Major Mergers. *T. J. Cox, Joel Primack, Patrik Jonsson, & Rachel S. Somerville.* 607, L87 (2004)
- COYNE, D. G. See ATKINS, R., et al. TeV Gamma-Ray Survey of the Northern Hemisphere Sky Using the Milagro Observatory.
- CRENSHAW, D. M. On the Relationship between the Optical Emission-Line and X-Ray Luminosities in Seyfert 1 Galaxies. *S. B. Kraemer, I. M. George, D. M. Crenshaw, & J. R. Gabel.* 607, 794 (2004)
- CROFT, RUPERT A. C. Gravitational Redshifts in Simulated Galaxy Clusters. *Young-Rae Kim & Rupert A. C. Croft.* 607, 164 (2004)
- CROOKER, N. U. *Ulysses* Observations of the Magnetic Connectivity between Coronal Mass Ejections and the Sun. *Pete Riley, J. T. Gosling, & N. U. Crooker.* 608, 1100 (2004)
- CROOM, SCOTT M. Gemini Imaging of QSO Host Galaxies at $z \sim 2$. *Scott M. Croom, David Schade, Brian J. Boyle, Tom Shanks, Lance Miller, & Robert J. Smith.* 606, 126 (2004)
- CROSTA, M. T. A General Relativistic Model of Light Propagation in the Gravitational Field of the Solar System: The Static Case. *F. de Felice, M. T. Crosta, A. Vecchiato, M. G. Lattanzi, & B. Bucciarelli.* 607, 580 (2004)
- CROWTHER, PAUL A. A CNO Dichotomy among O2 Giant Spectra in the Magellanic Clouds. *Nolan R. Walborn, Nidia I. Morrell, Ian D. Howarth, Paul A. Crowther, Daniel J. Lennon, Philip Massey, & Julia I. Arias.* 608, 1028 (2004)
- CSABAI, ISTVAN. See TEGMARK, MAX, et al. The Three-dimensional Power Spectrum of Galaxies from the Sloan Digital Sky Survey.
- See ZEHAVALI, IDIT, et al. On Departures from a Power Law in the Galaxy Correlation Function.
- CUI, W. See KOSACK, K., et al. TeV Gamma-Ray Observations of the Galactic Center.
- CUMMING, A. Magnetars: Time Evolution, Superfluid Properties, and the Mechanism of Magnetic Field Decay. *P. Arras, A. Cumming, & C. Thompson.* 608, L49 (2004)
- CUNHA, KATIA. Boron Benchmarks for the Galactic Disk. *Ann Merchant Boesgaard, Elizabeth J. McGrath, David L. Lambert, & Katia Cunha.* 606, 306 (2004)
- Chemical Abundances for a Sample of Southern OB Stars. II. The Outer Disk. *Simone Daflon, Katia Cunha, & Keith Butler.* 606, 514 (2004)
- CURDT, W. Newly Identified Forbidden Transitions within the Ground Configuration of Ions of Very Low Abundance P, Cl, K, and Co. *U. Feldman, E. Landi, & W. Curdt.* 607, 1039 (2004)
- DADDI, E. Metal Enrichment in Near-Infrared Luminous Galaxies at $z \sim 2$: Signatures of Proto-Elliptical Galaxies? *D. F. de Mello, E. Daddi, A. Renzini, A. Cimatti, S. di Serego Alighieri, L. Pozzetti, & G. Zamorani.* 608, L29 (2004)
- DAFLON, SIMONE. Chemical Abundances for a Sample of Southern OB Stars. II. The Outer Disk. *Simone Daflon, Katia Cunha, & Keith Butler.* 606, 514 (2004)
- DAHLEM, MICHAEL. The Superwind Galaxy NGC 4666: Gravitational Interactions and the Influence of the Resulting Starburst on the Interstellar Medium. *Fabian Walter, Michael Dahlem, & Ute Lisenfeld.* 606, 258 (2004)
- DAHN, CONARD C. See KLEINMAN, S. J., et al. A Catalog of Spectroscopically Identified White Dwarf Stars in the First Data Release of the Sloan Digital Sky Survey.
- DAI, Z. G. The Luminosity- E_p Relation within Gamma-Ray Bursts and the Implications for Fireball Models. *E. W. Liang, Z. G. Dai, & X. F. Wu.* 606, L29 (2004)
- Relativistic Wind Bubbles and Afterglow Signatures. *Z. G. Dai.* 606, 1000 (2004)
- The Peak Energy Distribution of the νF_ν Spectra and the Implications for the Jet Structure Models of Gamma-Ray Bursts. *E. W. Liang & Z. G. Dai.* 608, L9 (2004)
- DALCANTON, JULIANNE J. The Formation of Dust Lanes: Implications for Galaxy Evolution. *Julianne J. Dalcanton, Peter Yoachim, & Rebecca A. Bernstein.* 608, 189 (2004)
- DALGARN, A. *Chandra* Observations of the "Dark" Moon and Geocoronal Solar Wind Charge Transfer. *B. J. Wargelin, M. Markevitch, M. Juda, V. Kharchenko, R. Edgar, & A. Dalgarno.* 607, 596 (2004)
- DAMIANI, F. See WOLK, S. J., et al. Coronal Variability in the Young Cluster NGC 2516.

- A Deep *Chandra* X-Ray Observation of the Rich Young Cluster NGC 6530. I. The X-Ray Source Catalog and the Cluster Population. *F. Damiani, E. Fiaccomio, G. Micela, S. Sciortino, F. R. Harnden, Jr., & S. S. Murray.* 608, 781 (2004)
- DANIEL, M. See KOSACK, K., et al. TeV Gamma-Ray Observations of the Galactic Center.
- DANKS, A. See GRADY, C. A., et al. The Environment of the Optically Brightest Herbig Ae Star, HD 104237.
- DANNERBAUER, H. The Faint Counterparts of Max-Planck-Millimeter-Bolometer (MAMBO) Millimeter Sources near the New Technology Telescope Deep Field. *H. Dannerbauer, M. D. Lehnert, D. Lutz, L. Tacconi, F. Bertoldi, C. Carilli, R. Genzel, & K. M. Menten.* 606, 664 (2004)
- DAS, V. See BARAI, P., et al. Mass and Angular Momentum Transfer in the Massive Algol Binary RY Persei.
- DAUMILLER, K. See ANTONI, T., et al. Search for Cosmic-Ray Point Sources with KASCADE.
- DAVID, LAURENCE P. A *Chandra* Study of the Core of the Nearby Cluster A576. *Joshua C. Kempner & Laurence P. David.* 607, 220 (2004)
- A Deep *Chandra* Observation of the Distant Galaxy Cluster MS 1137.5+6625. *Laura Grego, Jan M. Vrilek, Leon Van Speybroeck, Laurence P. David, William Forman, John E. Carlstrom, Erik D. Reese, & Marshall K. Joy.* 608, 731 (2004)
- DAVIDGE, T. J. Photometric Variability among the Brightest Asymptotic Giant Branch Stars near the Center of M32. *T. J. Davidge & F. Rigaut.* 607, L25 (2004)
- DAVIES, R. D. The Quest for Microwave Foreground X. *Angélica de Oliveira-Costa, Max Tegmark, R. D. Davies, Carlos M. Gutiérrez, A. N. Lasenby, R. Rebolo, & R. A. Watson.* 606, L89 (2004)
- DAWSON, S. See WANG, J. X., et al. X-Ray Nondetection of the Ly α Emitters at $z \sim 4.5$.
- DAY, M. S. Direct Numerical Simulations of Type Ia Supernovae Flames. I. The Landau-Darrieus Instability. *J. B. Bell, M. S. Day, C. A. Rendleman, S. E. Woosley, & M. Zingale.* 606, 1029 (2004)
- Direct Numerical Simulations of Type Ia Supernovae Flames. II. The Rayleigh-Taylor Instability. *J. B. Bell, M. S. Day, C. A. Rendleman, S. E. Woosley, & M. Zingale.* 608, 883 (2004)
- DEAN, A. J. See BIRD, A. J., et al. The First IBIS/ISGRI Soft Gamma-Ray Galactic Plane Survey Catalog.
- DEBES, JOHN H. Using Notch-Filter Masks for High-Contrast Imaging of Extrasolar Planets. *John H. Debes, Jian Ge, Marc J. Kuchner, & Michael Rogosky.* 608, 1095 (2004)
- DE FELICE, F. A General Relativistic Model of Light Propagation in the Gravitational Field of the Solar System: The Static Case. *F. de Felice, M. T. Crosta, A. Vecchiato, M. G. Lattanzi, & B. Bucciarelli.* 607, 580 (2004)
- DE KONING, CURT A. Probing Heliospheric Turbulence with Cosmic Rays: Theory. *Curt A. de Koning & John W. Bieber.* 606, 1200 (2004)
- DE LA CALLE PEREZ, I. See KOSACK, K., et al. TeV Gamma-Ray Observations of the Galactic Center.
- DE LANGE, GERT. See STARK, RONALD, et al. Probing the Early Stages of Low-Mass Star Formation in LDN 1689N: Dust and Water in IRAS 16293–2422A, B, and E.
- DELLA PRUGNA, F. See RENGSTORF, A. W., et al. New Quasars Detected via Variability in the QUEST1 Survey.
- DELOYE, CHRISTOPHER J. Ultracompact Binaries as Bright X-Ray Sources in Elliptical Galaxies. *Lars Bildsten & Christopher J. Deloye.* 607, L119 (2004)
- DEL SANTO, M. See BIRD, A. J., et al. The First IBIS/ISGRI Soft Gamma-Ray Galactic Plane Survey Catalog.
- DE MARCO, ORSOLA. First Evidence of Circumstellar Disks around Blue Straggler Stars. *Orsola De Marco, Thierry Lanz, John A. Ouellette, David Zurek, & Michael M. Shara.* 606, L151 (2004)
- DE MELLO, D. F. Metal Enrichment in Near-Infrared Luminous Galaxies at $z \sim 2$: Signatures of Proto-Elliptical Galaxies? *D. F. de Mello, E. Daddi, A. Renzini, A. Cimatti, S. di Serego Alighieri, L. Pozzetti, & G. Zamorani.* 608, L29 (2004)
- DENKER, CARSTEN. Near-Infrared Observations at 1.56 Microns of the 2003 October 29 X10 White-Light Flare. *Yan Xu, Wenda Cao, Chang Liu, Guo Yang, Jiong Qiu, Ju Jing, Carsten Denker, & Haimin Wang.* 607, L131 (2004)
- DENNERL, K. Quiet-Sun X-Rays as Signature for New Particles. *K. Zioutas, K. Dennerl, L. DiLella, D. H. H. Hoffmann, J. Jacoby, & Th. Papaevangelou.* 607, 575 (2004)
- DEO, R. See BARAI, P., et al. Mass and Angular Momentum Transfer in the Massive Algol Binary RY Persei.
- DE OLIVEIRA-COSTA, ANGÉLICA. The Quest for Microwave Foreground X. *Angélica de Oliveira-Costa, Max Tegmark, R. D. Davies, Carlos M. Gutiérrez, A. N. Lasenby, R. Rebolo, & R. A. Watson.* 606, L89 (2004)
- DE PASQUALE, M. Absorption in Gamma-Ray Burst Afterglows. *G. Stratta, F. Fiore, L. A. Antonelli, L. Piro, & M. De Pasquale.* 608, 846 (2004)
- DESCH, S. J. Linear Analysis of the Magnetorotational Instability, Including Ambipolar Diffusion, with Application to Protoplanetary Disks. *S. J. Desch.* 608, 509 (2004)
- DE VILLIERS, JEAN-PIERRE. Magnetically Driven Accretion Flows in the Kerr Metric. II. Structure of the Magnetic Field. *Shigenobu Hirose, Julian H. Krolik, Jean-Pierre De Villiers, & John F. Hawley.* 606, 1083 (2004)
- DEVINE, K. E. Effect of Quasi-Orthogonal Emission Modes on the Rotation Measures of Pulsars. *R. Ramachandran, D. C. Backer, Joanna M. Rankin, J. M. Weisberg, & K. E. Devine.* 606, 1167 (2004)
- DEWANGAN, G. C. Iron K α Emission from the Low-Luminosity Active Galaxies M81 and NGC 4579. *G. C. Dewangan, R. E. Griffiths, T. Di Matteo, & N. J. Schurch.* 607, 788 (2004)
- DEWANGAN, GULAB C. A Transition to a Low/Soft State in the Ultraluminous Compact X-Ray Source Holmberg II X-1. *Gulab C. Dewangan, Takamitsu Miyaji, Richard E. Griffiths, & Ingo Lehmann.* 608, L57 (2004)
- DEY, A. See WANG, J. X., et al. X-Ray Nondetection of the Ly α Emitters at $z \sim 4.5$.
- DEYOUNG, T. See ATKINS, R., et al. TeV Gamma-Ray Survey of the Northern Hemisphere Sky Using the Milagro Observatory.
- DIAFERIO, A. See MURANTE, G., et al. The Diffuse Light in Simulations of Galaxy Clusters.
- DICKEY, J. M. GSH 23.0–0.7+117: A Neutral Hydrogen Shell in the Inner Galaxy. *J. M. Stil, A. R. Taylor, P. G. Martin, T. A. Rothwell, J. M. Dickey, & N. M. McClure-Griffiths.* 608, 297 (2004)
- DICKEY, JOHN M. A Distant Extended Spiral Arm in the Fourth Quadrant of the Milky Way. *N. M. McClure-Griffiths, John M. Dickey, B. M. Gaensler, & A. J. Green.* 607, L127 (2004)
- DICKINSON, M. E. See BOUWENS, R. J., et al. Star Formation at $z \sim 6$: The Hubble Ultra Deep Parallel Fields.
- DICKINSON, MARK. See RIESS, ADAM G., et al. Type Ia Supernova Discoveries at $z > 1$ from the *Hubble Space Telescope*: Evidence for Past Deceleration and Constraints on Dark Energy Evolution.
- DIEMAND, JÜRG. Density Profiles of Cold Dark Matter Substructure: Implications for the Missing-Satellites Problem. *Stelios Kazantzidis, Lucio Mayer, Chiara Mastropietro, Jürg Diemand, Joachim Stadel, & Ben Moore.* 608, 663 (2004)
- DIETRICH, MATTHIAS. Active Galactic Nuclei Emission-Line Properties versus the Eddington Ratio. *Craig Warner, Fred Hamann, & Matthias Dietrich.* 608, 136 (2004)
- DI FRANCESCO, JAMES. The Faintness of the 158 Micron [C II] Transition in the $z = 6.42$ Quasar SDSS J1148+5251. *Alberto D. Bolatto, James Di Francesco, & Chris J. Willott.* 606, L101 (2004)
- DIGEL, SETH W. Luminous Infrared Galaxies as Plausible Gamma-Ray Sources for the *Gamma-Ray Large Area Space Telescope* and the Imaging Atmospheric Cerenkov Telescopes. *Diego F. Torres, Olaf Reimer, Eva Domingo-Santamaría, & Seth W. Digel.* 607, L99 (2004)
- DI LELLA, L. Quiet-Sun X-Rays as Signature for New Particles. *K. Zioutas, K. Dennerl, L. DiLella, D. H. H. Hoffmann, J. Jacoby, & Th. Papaevangelou.* 607, 575 (2004)
- DI MATTEO, T. Iron K α Emission from the Low-Luminosity Active Galaxies M81 and NGC 4579. *G. C. Dewangan, R. E. Griffiths, T. Di Matteo, & N. J. Schurch.* 607, 788 (2004)
- DIMPEL, W. See LYNCH, DAVID K., et al. 0.8–13 Micron Spectroscopy of V838 Monocerotis and a Model for Its Emission.
- DING, JIE. The Absorption Signatures of Dwarf Galaxies: The $z = 1.04$ Multicloud Weak Mg II Absorber toward PG 1634+706. *Stephanie G. Zonak, Jane C. Charlton, Jie Ding, & Christopher W. Churchill.* 606, 196 (2004)
- DING, M. D. Multiwavelength Analysis of an X1.6 Flare of 2001 October 19. *J. P. Li & M. D. Ding.* 606, 583 (2004)
- DINGUS, B. L. See ATKINS, R., et al. TeV Gamma-Ray Survey of the Northern Hemisphere Sky Using the Milagro Observatory.

- DI SEREGO ALIGHIERI, S. Metal Enrichment in Near-Infrared Luminous Galaxies at $z \sim 2$: Signatures of Proto-Elliptical Galaxies? *D. F. de Mello, E. Daddi, A. Renzini, A. Cimatti, S. di Serego Alighieri, L. Pozzetti, & G. Zamorani*. 608, L29 (2004)
- DIXON, W. VAN DYKE. Discovery of an O VI-emitting Nebula around the Hot White Dwarf KPD 0005+5106. *Birgit Otte, W. Van Dyke Dixon, & Ravi Sankrit*. 606, L143 (2004)
- DOELEMEN, SHEPHERD S. Using VLBI to Probe the Orion KL Outflow on AU Scales. *Shepherd S. Doeleman, Colin J. Lonsdale, Paul T. Kondratko, & C. Read Predmore*. 607, 361 (2004)
- DOI, MAMORU. See TEGMARK, MAX, et al. The Three-dimensional Power Spectrum of Galaxies from the Sloan Digital Sky Survey.
- DOI, Y. See TSUCHIYA, K., et al. Detection of Sub-TeV Gamma Rays from the Galactic Center Direction by CANGAROO-II.
- DOLAG, K. Thermal Conduction in Simulated Galaxy Clusters. *K. Dolag, M. Jubelgas, V. Springel, S. Borgani, & E. Rasia*. 606, L97 (2004)
- See MURANTE, G., et al. The Diffuse Light in Simulations of Galaxy Clusters.
- DOLAN, JOSEPH F. A Search for Short-Timescale Microvariability in Active Galactic Nuclei in the Ultraviolet. *Joseph F. Dolan & L. Lee Clark*. 607, 84 (2004)
- DOLL, P. See ANTONI, T., et al. Search for Cosmic-Ray Point Sources with KASCADE.
- DOMINGO-SANTAMARÍA, EVA. Luminous Infrared Galaxies as Plausible Gamma-Ray Sources for the Gamma-Ray Large Area Space Telescope and the Imaging Atmospheric Cerenkov Telescopes. *Diego F. Torres, Olaf Reimer, Eva Domingo-Santamaría, & Seth W. Digel*. 607, L99 (2004)
- DOMINIK, C. Detection of H_2D^+ : Measuring the Midplane Degree of Ionization in the Disks of DM Tauri and TW Hydrae. *C. Ceccarelli, C. Dominik, B. Lefloch, P. Caselli, & E. Caux*. 607, L51 (2004)
- DONAHUE, MEGAN. X-Ray and Optical Filaments in M87. *William B. Sparks, Megan Donahue, Andrés Jordán, Laura Ferrarese, & Patrick Côté*. 607, 294 (2004)
- DORÉ, OLIVIER. Beyond the Damping Tail: Cross-Correlating the Kinetic Sunyaev-Zel'dovich Effect with Cosmic Shear. *Olivier Doré, Joseph F. Hennawi, & David N. Spergel*. 606, 46 (2004)
- DORFAN, D. E. See ATKINS, R., et al. TeV Gamma-Ray Survey of the Northern Hemisphere Sky Using the Milagro Observatory.
- DRAINE, B. T. X-Ray Scattering Halos from the Galactic Center: Implications for Diffuse Emission around Sagittarius A*. *Jonathan C. Tan & B. T. Draine*. 606, 296 (2004)
- DRAKE, A. J. Resolving the Nature of the Large Magellanic Cloud Microlensing Event MACHO-LMC-5. *A. J. Drake, K. H. Cook, & S. C. Keller*. 607, L29 (2004)
- DRAKE, JEREMY J. Doppler Shifts and Broadening and the Structure of the X-Ray Emission from Algol. *Sun Mi Chung, Jeremy J. Drake, Vinay L. Kashyap, Li Wei Lin, & Peter W. Ratzlaff*. 606, 1184 (2004)
- DREIZLER, S. See REED, M. D., et al. Discovery of Gravity-Mode Pulsators among Subdwarf B Stars: PG 1716+426, the Class Prototype.
- DRORY, N. The Munich Near-Infrared Cluster Survey (MUNICS). VI. The Stellar Masses of K -Band-Selected Field Galaxies to $z \sim 1.2$. *N. Drory, R. Bender, G. Feulner, U. Hopp, C. Maraston, J. Snigula, & G. J. Hill*. 608, 742 (2004)
- DUCHÊNE, G. A Multiwavelength Scattered Light Analysis of the Dust Grain Population in the GG Tauri Circumbinary Ring. *G. Duchêne, C. McCabe, A. M. Ghez, & B. A. Macintosh*. 606, 969 (2004)
- DUKE, C. See KOSACK, K., et al. TeV Gamma-Ray Observations of the Galactic Center.
- DURANT, M. A Strong, Broad Absorption Feature in the X-Ray Spectrum of the Nearby Neutron Star RX J1605.3+3249. *M. H. van Kerkwijk, D. L. Kaplan, M. Durant, S. R. Kulkarni, & F. Paerels*. 608, 432 (2004)
- DURSI, L. J. The Linear Instability of Astrophysical Flames in Magnetic Fields. *L. J. Durisi*. 606, 1039 (2004)
- DUVALL, T. L., JR. Sensitivity of Acoustic Wave Travel Times to Sound-Speed Perturbations in the Solar Interior. *A. C. Birch, A. G. Kosovichev, & T. L. Duvall, Jr.* 608, 580 (2004)
- DUVALL, THOMAS L., JR. On the Relationship between the Rotational Velocity and the Field Strength of Solar Magnetic Elements. *Junwei Zhao, Alexander G. Kosovichev, & Thomas L. Duvall, Jr.* 607, L135 (2004)
- D'VALI, M. See KOSACK, K., et al. TeV Gamma-Ray Observations of the Galactic Center.
- DWEK, ELI. The Detection of Cold Dust in Cassiopeia A: Evidence for the Formation of Metallic Needles in the Ejecta. *Eli Dwek*. 607, 848 (2004)
- DWYER, J. R. Abundances of Heavy and Ultraheavy Ions in ^3He -rich Solar Flares. *G. M. Mason, J. E. Mazur, J. R. Dwyer, J. R. Jokipii, R. E. Gold, & S. M. Krimigis*. 606, 555 (2004)
- DYE, SIMON. See BELL, ERIC F., et al. Nearly 5000 Distant Early-Type Galaxies in COMBO-17: A Red Sequence and Its Evolution since $z \sim 1$.
- DYER, KRISTY K. The Radio Continuum of the Metal-deficient Blue Compact Dwarf Galaxy SBS 0335–052. *Leslie K. Hunt, Kristy K. Dyer, Trinh X. Thuan, & James S. Ulvestad*. 606, 853 (2004)
- DYKS, J. Relativistic Effects and Polarization in Three High-Energy Pulsar Models. *J. Dyks, Alice K. Harding, & B. Rudak*. 606, 1125 (2004)
- On the Methods of Determining the Radio Emission Geometry in Pulsar Magnetospheres. *J. Dyks, B. Rudak, & Alice K. Harding*. 607, 939 (2004)
- EBEL, DENTON S. Chondrule Formation and Protoplanetary Disk Heating by Current Sheets in Nonideal Magnetohydrodynamic Turbulence. *M. K. Ryan Joung, Mordecai-Mark Mac Low, & Denton S. Ebel*. 606, 532 (2004)
- EBELING, HARALD. The Dipole Anisotropy of the First All-Sky X-Ray Cluster Sample. *Dale D. Kocevski, Christopher R. Mullis, & Harald Ebeling*. 608, 721 (2004)
- EDELMANN, H. See REED, M. D., et al. Discovery of Gravity-Mode Pulsators among Subdwarf B Stars: PG 1716+426, the Class Prototype.
- EDGAR, R. *Chandra* Observations of the “Dark” Moon and Geocoronal Solar Wind Charge Transfer. *B. J. Wargelin, M. Markevitch, M. Juda, V. Kharchenko, R. Edgar, & A. Dalgarno*. 607, 596 (2004)
- EDWARDS, P. G. See TSUCHIYA, K., et al. Detection of Sub-TeV Gamma Rays from the Galactic Center Direction by CANGAROO-II.
- See KAWACHI, A., et al. A Search for TeV Gamma-Ray Emission from the PSR B1259–63/SS 2883 Binary System with the Cangaroo-II 10 m Telescope.
- EGUCHI, S. See BOND, I. A., et al. OGLE 2003-BLG-235/MOA 2003-BLG-53: A Planetary Microlensing Event.
- EHLE, M. See MILLER, J. M., et al. Evidence of Black Hole Spin in GX 339–4: *XMM-Newton*/EPIC-pn and *RXTE* Spectroscopy of the Very High State.
- EICHLER, DAVID. Compton Sailing and Strong Polarization. *David Eichler*. 608, L81 (2004)
- EISENSTEIN, D. J. See BOUWENS, R. J., et al. Star Formation at $z \sim 6$: The Hubble Ultra Deep Parallel Fields.
- EISENSTEIN, DANIEL. A Helium White Dwarf of Extremely Low Mass. *James Liebert, P. Bergeron, Daniel Eisenstein, H. C. Harris, S. J. Kleinman, Atsuko Nitta, & Jurek Krzesinski*. 606, L147 (2004)
- EISENSTEIN, DANIEL J. See TEGMARK, MAX, et al. The Three-dimensional Power Spectrum of Galaxies from the Sloan Digital Sky Survey.
- See KLEINMAN, S. J., et al. A Catalog of Spectroscopically Identified White Dwarf Stars in the First Data Release of the Sloan Digital Sky Survey.
- See POPE, ADRIAN C., et al. Cosmological Parameters from Eigenmode Analysis of Sloan Digital Sky Survey Galaxy Redshifts.
- ELITZUR, MOSHE. Erratum: A Circumstellar Disk in a High-Mass Star-forming Region (ApJL, 603, L113 [2003]). *Michele R. Pestalozzi, Moshe Elitzur, John E. Conway, & Roy S. Booth*. 606, L173 (2004) (Orig. paper in 606, L173 (2004))
- ELLIS, RICHARD S. The Abundance of Low-Luminosity Ly α Emitters at High Redshift. *Michael R. Santos, Richard S. Ellis, Jean-Paul Kneib, Johan Richard, & Konrad Kuijken*. 606, 683 (2004)
- A Probable $z \sim 7$ Galaxy Strongly Lensed by the Rich Cluster A2218: Exploring the Dark Ages. *Jean-Paul Kneib, Richard S. Ellis, Michael R. Santos, & Johan Richard*. 607, 697 (2004)
- Hubble Space Telescope* Imaging and Keck Spectroscopy of $z \approx 6$ i -Band Dropout Galaxies in the Advanced Camera for Surveys GOODS Fields. *Elizabeth R. Stanway, Andrew J. Bunker, Richard G. McMahon, Richard S. Ellis, Tommaso Treu, & Patrick J. McCarthy*. 607, 704 (2004)
- ELLSWORTH, R. W. See ATKINS, R., et al. TeV Gamma-Ray Survey of the Northern Hemisphere Sky Using the Milagro Observatory.
- EL-ZANT, AMR A. Flat-cored Dark Matter in Cuspy Clusters of Galaxies. *Amr A. El-Zant, Yehuda Hoffman, Joel Primack, Françoise Combes, & Isaac Shlosman*. 607, L75 (2004)
- EMMET, W. See RENGSTORF, A. W., et al. New Quasars Detected via Variability in the QUEST1 Survey.
- ENGEL, R. See ANTONI, T., et al. Search for Cosmic-Ray Point Sources with KASCADE.
- ENGLER, J. See ANTONI, T., et al. Search for Cosmic-Ray Point Sources with KASCADE.

- ENOMOTO, R. See TSUCHIYA, K., et al. Detection of Sub-TeV Gamma Rays from the Galactic Center Direction by CANGAROO-II.
- See KAWACHI, A., et al. A Search for TeV Gamma-Ray Emission from the PSR B1259–63/SS 2883 Binary System with the Cangaroo-II 10 m Telescope.
- ERACLEOUS, M. *Chandra* Observations of the Cloverleaf Quasar H1413+117: A Unique Laboratory for Microlensing Studies of a LoBAL Quasar. *G. Chartas, M. Eracleous, E. Agol, & S. C. Gallagher.* 606, 78 (2004)
- ERB, DAWN K. Optical Selection of Star-Forming Galaxies at Redshifts $1 < z < 3$. *Kurt L. Adelberger, Charles C. Steidel, Alice E. Shapley, Matthew P. Hunt, Dawn K. Erb, Naveen A. Reddy, & Max Pettini.* 607, 226 (2004)
- ESCALA, ANDRÉS. The Role of Gas in the Merging of Massive Black Holes in Galactic Nuclei. I. Black Hole Merging in a Spherical Gas Cloud. *Andrés Escala, Richard B. Larson, Paolo S. Coppi, & Diego Mardones.* 607, 765 (2004)
- EVANS, C. J. Terminal Velocities of Luminous, Early-Type Small Magellanic Cloud Stars. *C. J. Evans, D. J. Lennon, C. Trundle, S. R. Heap, & D. J. Lindler.* 607, 451 (2004)
- FABIAN, A. C. See MILLER, J. M., et al. Evidence of Black Hole Spin in GX 339–4: *XMM-Newton*/EPIC-pn and *RXTE* Spectroscopy of the Very High State.
- Revealing a Cool Accretion Disk in the Ultraluminous X-Ray Source M81 X-9 (Holmberg IX X-1): Evidence for an Intermediate-Mass Black Hole. *J. M. Miller, A. C. Fabian, & M. C. Miller.* 607, 931 (2004)
- FAJARDO-ACOSTA, SERGIO. See LYNCH, DAVID K., et al. 0.8–13 Micron Spectroscopy of V838 Monocerotis and a Model for Its Emission.
- FALCONE, A. See KOSACK, K., et al. TeV Gamma-Ray Observations of the Galactic Center.
- FALTER, S. See REED, M. D., et al. Discovery of Gravity-Mode Pulsators among Subdwarf B Stars: PG 1716+426, the Class Prototype.
- FAN, X. See BOUWENS, R. J., et al. Star Formation at $z \sim 6$: The Hubble Ultra Deep Parallel Fields.
- FANG, TAOTAO. Probing the Statistics of the Temperature-Density Relation of the Intergalactic Medium. *Taotao Fang & Martin White.* 606, L9 (2004)
- FARIHI, J. Mid-Infrared Observations of van Maanen 2: No Substellar Companion. *J. Farihi, E. E. Becklin, & B. A. Macintosh.* 608, L109 (2004)
- FATHI, K. See LIPKIN, Y. M., et al. The Detailed Optical Light Curve of GRB 030329.
- FAVATA, MARC. How Black Holes Get Their Kicks: Gravitational Radiation Recoil Revisited. *Marc Favata, Scott A. Hughes, & Daniel E. Holz.* 607, L5 (2004)
- Consequences of Gravitational Radiation Recoil. *David Merritt, Miloš Milosavljević, Marc Favata, Scott A. Hughes, & Daniel E. Holz.* 607, L9 (2004)
- FAVRE, P. The Gamma-Ray Bright BL Lacertae Object RX J1211+2242. *V. Beckmann, P. Favre, F. Tavecchio, T. Bussien, J. Fliri, & A. Wolter.* 608, 692 (2004)
- FEGAN, D. J. See KOSACK, K., et al. TeV Gamma-Ray Observations of the Galactic Center.
- FEGAN, S. J. See KOSACK, K., et al. TeV Gamma-Ray Observations of the Galactic Center.
- FELDMAN, U. Newly Identified Forbidden Transitions within the Ground Configuration of Ions of Very Low Abundance P, Cl, K, and Co. *U. Feldman, E. Landi, & W. Curdt.* 607, 1039 (2004)
- FENDT, CHRISTIAN. Ultrarelativistic Magnetohydrodynamic Jets in the Context of Gamma-Ray Bursts. *Christian Fendt & Rachid Ouyed.* 608, 378 (2004)
- FENG, HUA. Diagnostics of Neutron Star and Black Hole X-Ray Binaries with X-Ray Shot Widths. *Hua Feng, T. P. Li, & S. N. Zhang.* 606, 424 (2004)
- X-Ray Triple Rings around the M87 Jets in the Central Virgo Cluster. *Hua Feng, Shuang-Nan Zhang, Yu-Qing Lou, & Ti-Pei Li.* 607, L95 (2004)
- FENNER, YESHE. Constraints on Early Nucleosynthesis from the Abundance Pattern of a Damped Ly α System at $z = 2.626$. *Yeshe Fenner, Jason X. Prochaska, & Brad K. Gibson.* 606, 116 (2004)
- FERGUSON, HENRY C. See RIESS, ADAM G., et al. Type Ia Supernova Discoveries at $z > 1$ from the *Hubble Space Telescope*: Evidence for Past Deceleration and Constraints on Dark Energy Evolution.
- FERRARESE, LAURA. X-Ray and Optical Filaments in M87. *William B. Sparks, Megan Donahue, Andrés Jordán, Laura Ferrarese, & Patrick Côté.* 607, 294 (2004)
- The Effect of Metallicity on Cepheid-based Distances. *Shoko Sakai, Laura Ferrarese, Robert C. Kennicutt, Jr., & Abhijit Saha.* 608, 42 (2004)
- FERRARO, FRANCESCO R. Probing the Red Giant Branch Phase Transition: Near-Infrared Photometry of Six Intermediate-Age Large Magellanic Cloud Clusters. *Francesco R. Ferraro, Livia Origlia, Vincenzo Testa, & Claudia Maraston.* 608, 772 (2004)
- FERREIRA, S. E. S. Modulation of Cosmic-Ray Electrons in a Nonspherical and Irregular Heliosphere. *S. E. S. Ferreira, M. S. Potgieter, & K. Scherer.* 607, 1014 (2004)
- FERRIN, I. See RENGSTORF, A. W., et al. New Quasars Detected via Variability in the QUEST1 Survey.
- FESSEN, ROBERT A. See GERARDY, CHRISTOPHER L., et al. SN 2003du: Signatures of the Circumstellar Environment in a Normal Type Ia Supernova?
- FESSLER, F. See ANTONI, T., et al. Search for Cosmic-Ray Point Sources with KASCADE.
- FEULNER, G. The Munich Near-Infrared Cluster Survey (MUNICS). VI. The Stellar Masses of *K*-Band-Selected Field Galaxies to $z \sim 1.2$. *N. Drory, R. Bender, G. Feulner, U. Hopp, C. Maraston, J. Snigula, & G. J. Hill.* 608, 742 (2004)
- FIGER, DONALD F. Dynamical Friction on Galactic Center Star Clusters with an Intermediate-Mass Black Hole. *Sungsoo S. Kim, Donald F. Figer, & Mark Morris.* 607, L123 (2004)
- FILIPPENKO, ALEXEI V. See BRANCH, DAVID, et al. Direct Analysis of Spectra of the Peculiar Type Ia Supernova 2000cx.
- See RIESS, ADAM G., et al. Type Ia Supernova Discoveries at $z > 1$ from the *Hubble Space Telescope*: Evidence for Past Deceleration and Constraints on Dark Energy Evolution.
- FINKBEINER, DOUGLAS. See TEGMARK, MAX, et al. The Three-dimensional Power Spectrum of Galaxies from the Sloan Digital Sky Survey.
- FINLEY, J. P. See KOSACK, K., et al. TeV Gamma-Ray Observations of the Galactic Center.
- FINN, LEE SAMUEL. *Swift* Pointing and the Association Between Gamma-Ray Bursts and Gravitational Wave Bursts. *Lee Samuel Finn, Badri Krishnan, & Patrick J. Sutton.* 607, 384 (2004)
- FIGER, DONALD F. X-Ray Evolution of Active Galactic Nuclei and Hierarchical Galaxy Formation. *N. Menci, F. Fiore, G. C. Perola, & A. Cavaliere.* 606, 58 (2004)
- Absorption in Gamma-Ray Burst Afterglows. *G. Stratta, F. Fiore, L. A. Antonelli, L. Piro, & M. De Pasquale.* 608, 846 (2004)
- FISK, L. A. Reconnection of Magnetic Field Lines near the Solar Surface during Coronal Mass Ejection Propagation. *A. A. Reinard & L. A. Fisk.* 608, 533 (2004)
- FISKER, JACOB LUND. The Nuclear Reaction Waiting Points: ^{22}Mg , ^{26}Si , ^{30}S , and ^{34}Ar and Bolometrically Double-peaked Type I X-Ray Bursts. *Jacob Lund Fisker, Friedrich-Karl Thielemann, & Michael Wiescher.* 608, L61 (2004)
- FITZGERALD, J. B. See LIPKIN, Y. M., et al. The Detailed Optical Light Curve of GRB 030329.
- FLACCOMIO, E. See WOLK, S. J., et al. Coronal Variability in the Young Cluster NGC 2516.
- A Deep *Chandra* X-Ray Observation of the Rich Young Cluster NGC 6530. I. The X-Ray Source Catalog and the Cluster Population. *F. Damiani, E. Flaccomio, G. Micela, S. Sciortino, F. R. Harnden, Jr., & S. S. Murray.* 608, 781 (2004)
- FLEYSHER, L. See ATKINS, R., et al. TeV Gamma-Ray Survey of the Northern Hemisphere Sky Using the Milagro Observatory.
- FLEYSHER, R. See ATKINS, R., et al. TeV Gamma-Ray Survey of the Northern Hemisphere Sky Using the Milagro Observatory.
- FLIRI, J. The Gamma-Ray Bright BL Lacertae Object RX J1211+2242. *V. Beckmann, P. Favre, F. Tavecchio, T. Bussien, J. Fliri, & A. Wolter.* 608, 692 (2004)
- FLORES, AARON. An X-Ray Investigation of the NGC 346 Field in the Small Magellanic Cloud. III. *XMM-Newton* Data. *Yaël Nazé, Jean Manfroid, Ian R. Stevens, Michael F. Corcoran, & Aaron Flores.* 608, 208 (2004)
- FLYER, N. Magnetic-Field Confinement in the Solar Corona. I. Force-free Magnetic Fields. *N. Flyer, B. Fornberg, S. Thomas, & B. C. Low.* 606, 1210 (2004)
- FONT, ANDREEA S. Photoevaporation of Circumstellar Disks around Young Stars. *Andreea S. Font, Ian G. McCarthy, Doug Johnstone, & David R. Ballantyne.* 607, 890 (2004)

- FORD, BRIAN J. Oxygen/Hydrogen Chemistry in the Inner Comae of Active Comets. *Robert J. Glinski, Brian J. Ford, Walter M. Harris, Christopher M. Anderson, & Jeffery P. Morganthaler*. 608, 601 (2004)
- FORMAN, W. Direct Constraints on the Dark Matter Self-Interaction Cross Section from the Merging Galaxy Cluster 1E 0657–56. *M. Markevitch, A. H. Gonzalez, D. Clowe, A. Vikhlinin, W. Forman, C. Jones, S. Murray, & W. Tucker*. 606, 819 (2004)
- See MULLIS, C. R., et al. Evolution of the Cluster X-Ray Luminosity Function.
- FORMAN, WILLIAM. A Deep *Chandra* Observation of the Distant Galaxy Cluster MS 1137.5+6625. *Laura Grego, Jan M. Vrtilik, Leon Van Speybroeck, Laurence P. David, William Forman, John E. Carlstrom, Erik D. Reese, & Marshall K. Joy*. 608, 731 (2004)
- FORNBERG, B. Magnetic-Field Confinement in the Solar Corona. I. Force-free Magnetic Fields. *N. Flyer, B. Fornberg, S. Thomas, & B. C. Low*. 606, 1210 (2004)
- FORTIN, P. See SCALZO, R. A., et al. High-Energy Gamma-Ray Observations of W Comae with the Solar Tower Atmospheric Cerenkov Effect Experiment (STACEE).
- FORTNEY, JONATHAN J. Effects of Helium Phase Separation on the Evolution of Extrasolar Giant Planets. *Jonathan J. Fortney & W. B. Hubbard*. 608, 1039 (2004)
- FORTSON, L. F. See KOSACK, K., et al. TeV Gamma-Ray Observations of the Galactic Center.
- FOX, D. B. See SODERBERG, A. M., et al. A Redshift Determination for XRF 020903: First Spectroscopic Observations of an X-Ray Flash.
- FOX, D. W. See LIPKIN, Y. M., et al. The Detailed Optical Light Curve of GRB 030329.
- FRAIL, D. A. See SODERBERG, A. M., et al. A Redshift Determination for XRF 020903: First Spectroscopic Observations of an X-Ray Flash.
- Constraints on Off-Axis Gamma-Ray Burst Jets in Type Ibc Supernovae from Late-Time Radio Observations. *A. M. Soderberg, D. A. Frail, & M. H. Wieringa*. 607, L13 (2004)
- FRANCO, JOSÉ. The Effects of Dust on Compact and Ultracompact H II Regions. *S. Jane Arthur, Stanley E. Kurtz, José Franco, & Marna Y. Albarrán*. 608, 282 (2004)
- FRANSSON, CLAES. The Diversity of Gamma-Ray Burst Afterglows and the Surroundings of Massive Stars. *Roger A. Chevalier, Zhi-Yun Li, & Claes Fransson*. 606, 369 (2004)
- FRANX, M. See BOUWENS, R. J., et al. Star Formation at $z \sim 6$: The Hubble Ultra Deep Parallel Fields.
- FRAYER, D. T. Further Multiwavelength Observations of the SSA 22 Ly α -emitting "Blob." *S. C. Chapman, D. Scott, R. A. Windhorst, D. T. Frayer, C. Borys, G. F. Lewis, & R. J. Ivison*. 606, 85 (2004)
- FREBEL, A. See LIPKIN, Y. M., et al. The Detailed Optical Light Curve of GRB 030329.
- FREDERIKSEN, J. TRIER. Magnetic Field Generation in Collisionless Shocks: Pattern Growth and Transport. *J. Trier Frederiksen, C. B. Hededal, T. Haugbølle, & Å. Nordlund*. 608, L13 (2004)
- FREEDMAN, WENDY L. Companions to Isolated Elliptical Galaxies: Revisiting the Bothun-Sullivan Sample. *Barry F. Madore, Wendy L. Freedman, & Gregory D. Bothun*. 607, 810 (2004)
- FREGEAU, J. M. Accretion onto Fast X-Ray Pulsars. *S. A. Rappaport, J. M. Fregeau, & H. Spruit*. 606, 436 (2004)
- FREIRE, PAULO C. Giant Metrewave Radio Telescope Discovery of a Millisecond Pulsar in a Very Eccentric Binary System. *Paulo C. Freire, Yashwant Gupta, Scott M. Ransom, & C. H. Ishwara-Chandra*. 606, L53 (2004)
- FREYBERG, M. J. See MILLER, J. M., et al. Evidence of Black Hole Spin in GX 339–4: *XMM-Newton*/EPIC-pn and *RXTE* Spectroscopy of the Very High State.
- FRIEDEL, D. N. High-Resolution Observations of Methyl Cyanide (CH₃CN) toward the Hot Core Regions W51 e1/e2. *A. Remijan, E. C. Sutton, L. E. Snyder, D. N. Friedel, S.-Y. Liu, & C.-C. Pei*. 606, 917 (2004)
- FRIEMAN, JOSHUA A. See TEGMARK, MAX, et al. The Three-dimensional Power Spectrum of Galaxies from the Sloan Digital Sky Survey.
- See POPE, ADRIAN C., et al. Cosmological Parameters from Eigenmode Analysis of Sloan Digital Sky Survey Galaxy Redshifts.
- See ZEHAVI, IDIT, et al. On Departures from a Power Law in the Galaxy Correlation Function.
- FUENMAYOR, F. See RENGSTORF, A. W., et al. New Quasars Detected via Variability in the QUEST1 Survey.
- FUJIMOTO, MASAYUKI Y. An Insight into the Reaction Rates of the Ne-Na and Mg-Al Chains from the Abundance Anomalies in Globular Cluster Red Giants. *Masayuki Aikawa, Masayuki Y. Fujimoto, & Kiyoshi Kato*. 608, 983 (2004)
- FUKAGAWA, M. See OJHA, D. K., et al. Deep Near-Infrared Observations of the W3 Main Star-forming Region.
- FUKAZAWA, YASUSHI. Very High Iron Abundance of the Hot Gas around the cD Galaxy of the MKW 4 Cluster. *Yasushi Fukazawa, Naomi Kawano, & Kengo Kawashima*. 606, L109 (2004)
- FUKUDA, N. Magnetohydrodynamic Simulations of the Formation of Cold Fronts in Clusters of Galaxies Including Heat Conduction. *N. Asai, N. Fukuda, & R. Matsumoto*. 606, L105 (2004)
- FUKUGITA, MASATAKA. See TEGMARK, MAX, et al. The Three-dimensional Power Spectrum of Galaxies from the Sloan Digital Sky Survey.
- See ZEHAVI, IDIT, et al. On Departures from a Power Law in the Galaxy Correlation Function.
- FUKUSHIGE, TOSHIYUKI. Structure of Dark Matter Halos from Hierarchical Clustering. III. Shallowing of the Inner Cusp. *Toshiyuki Fukushima, Atsushi Kawai, & Junichiro Makino*. 606, 625 (2004)
- FURLANETTO, STEVEN R. Ultraviolet Line Emission from Metals in the Low-Redshift Intergalactic Medium. *Steven R. Furlanetto, Joop Schaye, Volker Springel, & Lars Hernquist*. 606, 221 (2004)
- Free-Free Emission at Low Radio Frequencies. *Asantha Cooray & Steven R. Furlanetto*. 606, L5 (2004)
- 21 Centimeter Fluctuations from Cosmic Gas at High Redshifts. *Matias Zaldarriaga, Steven R. Furlanetto, & Lars Hernquist*. 608, 622 (2004)
- FURUTA, Y. See BOND, I. A., et al. OGLE 2003-BLG-235/MOA 2003-BLG-53: A Planetary Microlensing Event.
- GABEL, J. R. On the Relationship between the Optical Emission-Line and X-Ray Luminosities in Seyfert 1 Galaxies. *S. B. Kraemer, I. M. George, D. M. Crenshaw, & J. R. Gabel*. 607, 794 (2004)
- GABRIEL, A. H. See TURCK-CHIEZE, S., et al. Erratum: Looking for Gravity-Mode Multiplets with the GOLF Experiment aboard *SOHO* (ApJ, 604, 455 [2004]).
- GAENSLER, B. M. A Distant Extended Spiral Arm in the Fourth Quadrant of the Milky Way. *N. M. McClure-Griffiths, John M. Dickey, B. M. Gaensler, & A. J. Green*. 607, L127 (2004)
- GAENSLER, BRYAN M. Are Supershells Powered by Multiple Supernovae? Modeling the Radio Pulsar Population Produced by OB Associations. *Rosalba Perna & Bryan M. Gaensler*. 606, 326 (2004)
- GAHBAUER, F. A New Measurement of the Intensities of the Heavy Primary Cosmic-Ray Nuclei around 1 TeV amu⁻¹. *F. Gahbauer, G. Hermann, J. R. Hörandel, D. Müller, & A. A. Radu*. 607, 333 (2004)
- GAIDOS, J. A. See KOSACK, K., et al. TeV Gamma-Ray Observations of the Galactic Center.
- GAL, R. R. Spectroscopic Confirmation of the Cl 1604 Supercluster at $z \sim 0.9$. *R. R. Gal & L. M. Lubin*. 607, L1 (2004)
- GALLAGHER, S. C. *Chandra* Observations of the Cloverleaf Quasar H1413+117: A Unique Laboratory for Microlensing Studies of a LoBAL Quasar. *G. Chartas, M. Eracleous, E. Agol, & S. C. Gallagher*. 606, 78 (2004)
- GALLOWAY, DUNCAN K. The Effect of Neutron Star Rotation on the Properties of Thermonuclear X-Ray Bursts. *Michael P. Muno, Duncan K. Galloway, & Deepto Chakrabarty*. 608, 930 (2004)
- GAL-YAM, A. See LIPKIN, Y. M., et al. The Detailed Optical Light Curve of GRB 030329.
- GAMBILL, JESSICA K. A Survey of Extended Radio Jets with *Chandra* and the *Hubble Space Telescope*. *Rita M. Sambruna, Jessica K. Gambill, L. Maraschi, F. Tavecchio, R. Cerutti, C. C. Cheung, C. Megan Urry, & G. Chartas*. 608, 698 (2004)
- GAMMELL, S. See KOSACK, K., et al. TeV Gamma-Ray Observations of the Galactic Center.
- GAO, YU. The Star Formation Rate and Dense Molecular Gas in Galaxies. *Yu Gao & Philip M. Solomon*. 606, 271 (2004)
- GARAIMOV, V. I. Radio Observations of Rapid Acceleration in a Slow Filament Eruption/Fast Coronal Mass Ejection Event. *M. R. Kundu, S. M. White, V. I. Garaimov, P. K. Manoharan, P. Subramanian, S. Ananthakrishnan, & P. Janardhan*. 607, 530 (2004)
- GARAUD, P. On the Evolution and Stability of a Protoplanetary Disk Dust Layer. *P. Garaud & D. N. C. Lin*. 608, 1050 (2004)
- GARCIA, MIRIAM. The Effective Temperatures of Hot Stars. II. The Early-O Types. *Miriam Garcia & Luciana Bianchi*. 606, 497 (2004)

- GARCÍA, R. A. See TURCK-CHIEZE, S., et al. Erratum: Looking for Gravity-Mode Multiplets with the GOLF Experiment aboard *SOHO* (ApJ, 604, 455 (2004)).
- GARDNER, J. P. See GOVERNATO, F., et al. The Formation of a Realistic Disk Galaxy in Λ -dominated Cosmologies.
- GARDNER, JONATHAN P. Detecting Population III Stars through Observations of Near-Infrared Cosmic Infrared Background Anisotropies. *A. Kashlinsky, R. Arendt, Jonathan P. Gardner, J. Mather, & S. Harvey Moseley*. 608, 1 (2004)
- GARMIRE, GORDON P. An X-Ray Measurement of Titan's Atmospheric Extent from Its Transit of the Crab Nebula. *Koji Mori, Hiroshi Tsunemi, Haruyoshi Katayama, David N. Burrows, Gordon P. Garmire, & Albert E. Metzger*. 607, 1065 (2004)
- GARNETT, DONALD R. The First Measured Electron Temperatures for Metal-rich H II Regions in M51. *Donald R. Garnett, Robert C. Kennicutt, Jr., & Fabio Bresolin*. 607, L21 (2004)
- GAUTHIER, G. See SCALZO, R. A., et al. High-Energy Gamma-Ray Observations of W Comae with the Solar Tower Atmospheric Cerenkov Effect Experiment (STACEE).
- GAVRIIL, FOTIS P. A Comprehensive Study of the X-Ray Bursts from the Magnetar Candidate 1E 2259+586. *Fotis P. Gavril, Victoria M. Kaspi, & Peter M. Woods*. 607, 959 (2004)
- GE, JIAN. Evidence of Planetesimal Infall onto the Very Young Herbig Be Star LkHa 234. *Abhijit Chakraborty, Jian Ge, & Suvrat Mahadevan*. 606, L69 (2004)
- Using Notch-Filter Masks for High-Contrast Imaging of Extrasolar Planets. *John H. Debes, Jian Ge, Marc J. Kuchner, & Michael Rogosky*. 608, 1095 (2004)
- GERHARD, M. See RENGSTORF, A. W., et al. New Quasars Detected via Variability in the QUEST1 Survey.
- GELLER, MARGARET J. A Redshift Survey of Nearby Galaxy Groups: The Shape of the Mass Density Profile. *Andisheh Mahdavi & Margaret J. Geller*. 607, 202 (2004)
- GENZEL, R. The Faint Counterparts of Max-Planck-Millimeter-Bolometer (MAMBO) Millimeter Sources near the New Technology Telescope Deep Field. *H. Dannerbauer, M. D. Lehnert, D. Lutz, L. Tacconi, F. Bertoldi, C. Carilli, R. Genzel, & K. M. Menten*. 606, 664 (2004)
- GEORGAKAKIS, A. The Clustering of XMM-Newton Hard X-Ray Sources. *S. Basilakos, A. Georgakakis, M. Plonits, & I. Georgantopoulos*. 607, L79 (2004)
- GEORGANTOPOULOS, I. The Clustering of XMM-Newton Hard X-Ray Sources. *S. Basilakos, A. Georgakakis, M. Plonits, & I. Georgantopoulos*. 607, L79 (2004)
- GEORGE, I. M. On the Relationship between the Optical Emission-Line and X-Ray Luminosities in Seyfert I Galaxies. *S. B. Kraemer, I. M. George, D. M. Crenshaw, & J. R. Gabel*. 607, 794 (2004)
- GERARDY, CHRISTOPHER L. SN 2003du: Signatures of the Circumstellar Environment in a Normal Type Ia Supernova? *Christopher L. Gerardy, Peter Höflich, Robert A. Fesen, G. H. Marion, Ken'ichi Nomoto, Robert Quimby, Bradley E. Schaefer, Lifan Wang, & J. Craig Wheeler*. 607, 391 (2004)
- GERHARD, O. See MURANTE, G., et al. The Diffuse Light in Simulations of Galaxy Clusters.
- GHEZ, A. M. A Multiwavelength Scattered Light Analysis of the Dust Grain Population in the GG Tauri Circumbinary Ring. *G. Duchêne, C. McCabe, A. M. Ghez, & B. A. Macintosh*. 606, 969 (2004)
- GHOSH, KAJAL K. ROSAT and ASCA Observations of the Narrow-Line Seyfert I Galaxy RX J0136.9–3510: Blueshifted Fe K α Line and Extended Soft X-Ray Emission. *Kajal K. Ghosh, Douglas A. Swartz, Allyn F. Tennant, Kinwah Wu, & Brian D. Ramsey*. 607, L111 (2004)
- GIACCONI, RICCARDO. See NORMAN, COLIN, et al. The X-Ray-derived Cosmological Star Formation History and the Galaxy X-Ray Luminosity Functions in the *Chandra* Deep Fields North and South.
- GIAVALISCO, MAURO. See RIESS, ADAM G., et al. Type Ia Supernova Discoveries at $z > 1$ from the *Hubble Space Telescope*: Evidence for Past Deceleration and Constraints on Dark Energy Evolution.
- GIBBS, K. See KOSACK, K., et al. TeV Gamma-Ray Observations of the Galactic Center.
- GIBSON, BRAD K. Constraints on Early Nucleosynthesis from the Abundance Pattern of a Damped Ly α System at $z = 2.626$. *Yeshe Fenner, Jason X. Prochaska, & Brad K. Gibson*. 606, 116 (2004)
- GIES, D. R. See BARAI, P., et al. Mass and Angular Momentum Transfer in the Massive Algol Binary RY Persei.
- GILBERT, HOLLY R. A Comparison of CME-Associated Atmospheric Waves Observed in Coronal (Fe XII 195 Å) and Chromospheric (He I 10830 Å) Lines. *Holly R. Gilbert, Thomas E. Holzer, Barbara J. Thompson, & Joan T. Burkepile*. 607, 540 (2004)
- GILLANDERS, G. H. See KOSACK, K., et al. TeV Gamma-Ray Observations of the Galactic Center.
- GILLI, ROBERTO. See NORMAN, COLIN, et al. The X-Ray-derived Cosmological Star Formation History and the Galaxy X-Ray Luminosity Functions in the *Chandra* Deep Fields North and South.
- GILS, H. J. See ANTONI, T., et al. Search for Cosmic-Ray Point Sources with KASCADE.
- GINGRICH, D. M. See SCALZO, R. A., et al. High-Energy Gamma-Ray Observations of W Comae with the Solar Tower Atmospheric Cerenkov Effect Experiment (STACEE).
- GIOIA, I. M. See MULLIS, C. R., et al. Evolution of the Cluster X-Ray Luminosity Function.
- GIOMMI, P. See KOUVELIOTOU, C., et al. *Chandra* Observations of the X-Ray Environs of SN 1998bw/GRB 980425.
- GIOVANELLI, RICCARDO. The Impact of Distance Uncertainties on Local Luminosity and Mass Functions. *Karen L. Masters, Martha P. Haynes, & Riccardo Giovanelli*. 607, L115 (2004)
- GIOVANNI, M. K. See REED, M. D., et al. Discovery of Gravity-Mode Pulsators among Subdwarf B Stars: PG 1716+426, the Class Prototype.
- GISLER, G. See ATKINS, R., et al. TeV Gamma-Ray Survey of the Northern Hemisphere Sky Using the Milagro Observatory.
- GIZIS, JOHN E. A *Chandra* Observation of a TW Hydrae Association Brown Dwarf. *John E. Gizis & Ravi Bharat*. 608, L113 (2004)
- GLADDERS, MICHAEL D. Properties of Galaxy Dark Matter Halos from Weak Lensing. *Henk Hoekstra, H. K. C. Yee, & Michael D. Gladders*. 606, 67 (2004)
- GLASSTETTER, R. See ANTONI, T., et al. Search for Cosmic-Ray Point Sources with KASCADE.
- GLAZEBROOK, KARL. See NORMAN, COLIN, et al. The X-Ray-derived Cosmological Star Formation History and the Galaxy X-Ray Luminosity Functions in the *Chandra* Deep Fields North and South.
- GLIKMAN, EILAT. FIRST-2MASS Sources below the APM Detection Threshold: A Population of Highly Reddened Quasars. *Eilat Glikman, Michael D. Gregg, Mark Lacy, David J. Helfand, Robert H. Becker, & Richard L. White*. 607, 60 (2004)
- GLINSKI, ROBERT J. Oxygen/Hydrogen Chemistry in the Inner Comae of Active Comets. *Robert J. Glinski, Brian J. Ford, Walter M. Harris, Christopher M. Anderson, & Jeffery P. Morganthaler*. 608, 601 (2004)
- GNAT, ORLY. Photoionized Gas in Dark-Matter Minihalos in the Galactic Halo and Local Group. *Orly Gnat & Amiel Sternberg*. 608, 229 (2004)
- GNEDIN, NICKOLAY Y. Redshifted 21 Centimeter Emission from the Pre-reionization Era. I. Mean Signal and Linear Fluctuations. *Nickolay Y. Gnedin & Peter A. Shaver*. 608, 611 (2004)
- The Damping Wing of the Gunn-Peterson Absorption and Ly α Emitters in the Pre-Reionization Era. *Nickolay Y. Gnedin & Francisco Prada*. 608, L77 (2004)
- GOAD, MICHAEL R. What the Optical Recombination Lines Can Tell Us about the Broad-Line Regions of Active Galactic Nuclei. *Kirk T. Korista & Michael R. Goad*. 606, 749 (2004)
- GOLD, R. E. Abundances of Heavy and Ultraheavy Ions in ^3He -rich Solar Flares. *G. M. Mason, J. E. Mazur, J. R. Dwyer, J. R. Jokipii, R. E. Gold, & S. M. Krimigis*. 606, 555 (2004)
- GOLDREICH, PETER. Planet-Disk Symbiosis. *Re'em Sari & Peter Goldreich*. 606, L77 (2004)
- GÓMEZ, DANIEL O. Electrostatic Decay of Beam-generated Plasma Turbulence. *Alberto M. Vásquez & Daniel O. Gómez*. 607, 1024 (2004)
- GONZALEZ, A. H. Direct Constraints on the Dark Matter Self-Interaction Cross Section from the Merging Galaxy Cluster 1E 0657–56. *M. Markevitch, A. H. Gonzalez, D. Clowe, A. Vikhlinin, W. Forman, C. Jones, S. Murray, & W. Tucker*. 606, 819 (2004)
- GONZALEZ, M. M. See ATKINS, R., et al. TeV Gamma-Ray Survey of the Northern Hemisphere Sky Using the Milagro Observatory.
- GOODE, PHILIP R. Traces of the Dynamic Current Sheet during a Solar Flare. *Haisheng Ji, Haimin Wang, Philip R. Goode, Yunchun Jiang, & V. Yurchyshyn*. 607, L55 (2004)
- GOODMAN, ALYSSA A. PV Cephei: Young Star Caught Speeding? *Alyssa A. Goodman & Héctor G. Arce*. 608, 831 (2004)
- GOODMAN, J. Supermassive Stars in Quasar Disks. *J. Goodman & Jonathan C. Tan*. 608, 108 (2004)

- GOODMAN, J. A. See ATKINS, R., et al. TeV Gamma-Ray Survey of the Northern Hemisphere Sky Using the Milagro Observatory.
- GOODMAN, JEREMY. Low-Mass Protoplanet Migration in T Tauri α -Disks. *Kristen Menou & Jeremy Goodman*. 606, 520 (2004)
- GOOSSENS, M. Damping of Coronal Loop Oscillations: Calculation of Resonantly Damped Kink Oscillations of One-Dimensional Nonuniform Loops. *T. Van Doorsselaere, J. Andries, S. Poedts, & M. Goossens*. 606, 1223 (2004)
- GORDON, KARL D. Discovery of Blue Luminescence in the Red Rectangle: Possible Fluorescence from Neutral Polycyclic Aromatic Hydrocarbon Molecules? *Uma P. Vijh, Adolf N. Witt, & Karl D. Gordon*. 606, L65 (2004)
- GORIELY, STEPHANE. The r -Process in Supernovae: Impact of New Microscopic Mass Formulae. *Shinya Wanajo, Stephane Goriely, Mathieu Samyn, & Naoki Itoh*. 606, 1057 (2004)
- GOSLING, J. T. *Ulysses* Observations of the Magnetic Connectivity between Coronal Mass Ejections and the Sun. *Pete Riley, J. T. Gosling, & N. U. Crooker*. 608, 1100 (2004)
- GOTT, J. RICHARD, III. See TEGMARK, MAX, et al. The Three-dimensional Power Spectrum of Galaxies from the Sloan Digital Sky Survey.
- GOTTLIEBER, STEFAN. Density Profiles of Λ CDM Clusters. *Argyro Tsitsiomi, Andrey V. Kravtsov, Stefan Gottloeber, & Anatoly A. Klypin*. 607, 125 (2004)
- GOULD, ANDREW. Resolution of the MACHO-LMC-5 Puzzle: The Jerk-Parallax Microlens Degeneracy. *Andrew Gould*. 606, 319 (2004)
- Erratum: Stellar Halo Parameters from 4588 Subdwarfs (ApJ, 538, 765 [2003]). *Andrew Gould*. 607, 653 (2004) (Orig. paper in 583, 765 (2003))
- GOVERNATO, F. The Formation of a Realistic Disk Galaxy in Λ -dominated Cosmologies. *F. Governato, L. Mayer, J. Wadsley, J. P. Gardner, Beth Willman, E. Hayashi, T. Quinn, J. Stadel, & G. Lake*. 607, 688 (2004)
- GRADY, C. A. The Environment of the Optically Brightest Herbig Ae Star, HD 104237. *C. A. Grady, B. Woodgate, Carlos A. O. Torres, T. Henning, D. Apai, J. Rodmann, Hongchi Wang, B. Stecklum, H. Linz, G. M. Williger, A. Brown, E. Wilkinson, G. M. Harper, G. J. Herczeg, A. Danks, G. L. Vieira, E. Matsumoto, N. R. Collins, & R. S. Hill*. 608, 809 (2004)
- GRANOT, JONATHAN. Testing the Predictions of the Universal Structured Gamma-Ray Burst Jet Model. *Ehud Nakar, Jonathan Granot, & Dafne Guetta*. 606, L37 (2004)
- GRAY, JIM. See POPE, ADRIAN C., et al. Cosmological Parameters from Eigenmode Analysis of Sloan Digital Sky Survey Galaxy Redshifts.
- GREEN, A. J. A Distant Extended Spiral Arm in the Fourth Quadrant of the Milky Way. *N. M. McClure-Griffiths, John M. Dickey, B. M. Gaensler, & A. J. Green*. 607, L127 (2004)
- GREEN, E. M. See REED, M. D., et al. Discovery of Gravity-Mode Pulsators among Subdwarf B Stars: PG 1716+426, the Class Prototype.
- GREGG, MICHAEL D. FIRST-2MASS Sources below the APM Detection Threshold: A Population of Highly Reddened Quasars. *Eilat Glikman, Michael D. Gregg, Mark Lacy, David J. Helfand, Robert H. Becker, & Richard L. White*. 607, 60 (2004)
- GREGO, LAURA. A Deep *Chandra* Observation of the Distant Galaxy Cluster MS 1137.5+6625. *Laura Grego, Jan M. Vrtilak, Leon Van Speybroeck, Laurence P. David, William Forman, John E. Carlstrom, Erik D. Reese, & Marshall K. Joy*. 608, 731 (2004)
- GRIFFITHS, R. E. Iron $K\alpha$ Emission from the Low-Luminosity Active Galaxies M81 and NGC 4579. *G. C. Dewangan, R. E. Griffiths, T. Di Matteo, & N. J. Church*. 607, 788 (2004)
- GRIFFITHS, RICHARD E. A Transition to a Low/Soft State in the Ultraluminous Compact X-Ray Source Holmberg II X-1. *Gulab C. Dewangan, Takamitsu Miyaji, Richard E. Griffiths, & Ingo Lehmann*. 608, L57 (2004)
- GRUBE, J. See KOSACK, K., et al. TeV Gamma-Ray Observations of the Galactic Center.
- GRUBER, DUANE. Spectral Analysis of *Ross X-Ray Timing Explorer* Observations of A3667. *Yoel Rephaeli & Duane Gruber*. 606, 825 (2004)
- GRUENWALD, RUTH. Molecular Hydrogen in the Ionized Region of Planetary Nebulae. *Isabel Aleman & Ruth Gruenwald*. 607, 865 (2004)
- GRUPE, DIRK. $M_{BH}-\sigma$ Relation for a Complete Sample of Soft X-Ray-selected Active Galactic Nuclei. *Dirk Grupe & Smita Mathur*. 606, L41 (2004)
- GU, M. F. Laboratory Measurements of $3 \rightarrow 2$ X-Ray Emission Lines of Ne-like Ni XIX. *M. F. Gu, P. Beiersdorfer, G. V. Brown, H. Chen, K. R. Boyce, R. L. Kelley, C. A. Kilbourne, F. S. Porter, & S. M. Kahn*. 607, L143 (2004)
- GU, PIN-GAO. The Internal Structural Adjustment due to Tidal Heating of Short-Period Inflated Giant Planets. *Pin-Gao Gu, Peter H. I. denheimer, & Douglas N. C. Lin*. 608, 1076 (2004)
- GUETH, F. Massive Molecular Outflows at High Spatial Resolution. *H. Beuther, P. Schilke, & F. Gueth*. 608, 330 (2004)
- GUETTA, DAFNE. Testing the Predictions of the Universal Structured Gamma-Ray Burst Jet Model. *Ehud Nakar, Jonathan Granot, & Dafne Guetta*. 606, L37 (2004)
- GUNJI, S. See TSUCHIYA, K., et al. Detection of Sub-TeV Gamma Rays from the Galactic Center Direction by CANGAROO-II.
- See KAWACHI, A., et al. A Search for TeV Gamma-Ray Emission from the PSR B1259–63/SS 2883 Binary System with the Cangaroo-II 10 m Telescope.
- GUNN, JAMES E. See TEGMARK, MAX, et al. The Three-dimensional Power Spectrum of Galaxies from the Sloan Digital Sky Survey.
- See POPE, ADRIAN C., et al. Cosmological Parameters from Eigenmode Analysis of Sloan Digital Sky Survey Galaxy Redshifts.
- See ZEHAVI, IDIT, et al. On Departures from a Power Law in the Galaxy Correlation Function.
- GUPTA, YASHWANT. Giant Metrewave Radio Telescope Discovery of a Millisecond Pulsar in a Very Eccentric Binary System. *Paulo C. Freire, Yashwant Gupta, Scott M. Ransom, & C. H. Ishwara-Chandra*. 606, L53 (2004)
- GUTIÉRREZ, CARLOS M. The Quest for Microwave Foreground X. *Angélica de Oliveira-Costa, Max Tegmark, R. D. Davies, Carlos M. Gutiérrez, A. N. Lasenby, R. Rebolo, & R. A. Watson*. 606, L89 (2004)
- GUTIERREZ, K. See KOSACK, K., et al. TeV Gamma-Ray Observations of the Galactic Center.
- HABER, D. A. Activity-Related Changes in Local Solar Acoustic Mode Parameters from the Michelson Doppler Imager and Global Oscillations Network Group. *R. Howe, R. W. Komm, F. Hill, D. A. Haber, & B. W. Hindman*. 608, 562 (2004)
- HACHISU, IZUMI. Detection of Two-armed Spiral Shocks on the Accretion Disk of the Eclipsing Fast Nova V1494 Aquilae. *Izumi Hachisu, Mariko Kato, & Taichi Kato*. 606, L139 (2004)
- HAGINO, MASAOKI. Existence of Nanoparticle Dust Grains in the Inner Solar Corona? *Jagdev Singh, Takashi Sakurai, Kiyoshi Ichimoto, Masaoki Hagino, & Tetsuya T. Yamamoto*. 608, L69 (2004)
- HAIMAN, ZOLTAN. Reasoning From Fossils: Learning From the Local Black Hole Population about the Evolution of Quasars. *Zoltan Haiman, Luca Ciotti, & Jeremiah P. Ostriker*. 606, 763 (2004)
- Rate Coefficient for $H^+ + H_2(X^1\Sigma_g^+, \nu = 0, J = 0) \rightarrow H(1s) + H_2^+$ Charge Transfer and Some Cosmological Implications. *Daniel Wolf Savin, Predrag S. Krstić, Zoltán Haiman, & Phillip C. Stancil*. 606, L167 (2004)
- Erratum: Rate Coefficient for $H^+ + H_2(X^1\Sigma_g^+, \nu = 0, J = 0) \rightarrow H(1s) + H_2^+$ Charge Transfer and Some Cosmological Implications (ApJ, 606, L167 [2004]). *Daniel Wolf Savin, Predrag S. Krstić, Zoltán Haiman, & Phillip C. Stancil*. 607, L147 (2004) (Orig. paper in 606, L167 (2004))
- HAINES, T. J. See ATKINS, R., et al. TeV Gamma-Ray Survey of the Northern Hemisphere Sky Using the Milagro Observatory.
- HALFEN, D. T. Precise Rest Frequencies for AIH and AID ($X^1\Sigma^+$): A Reassessment of the Aluminum Hyperfine Structure. *D. T. Halfen & L. M. Ziurys*. 607, L63 (2004)
- HALL, J. See KOSACK, K., et al. TeV Gamma-Ray Observations of the Galactic Center.
- HALL, T. A. See KOSACK, K., et al. TeV Gamma-Ray Observations of the Galactic Center.
- HALPERN, J. See LIPKIN, Y. M., et al. The Detailed Optical Light Curve of GRB 030329.
- HALPERN, J. P. See SODERBERG, A. M., et al. A Redshift Determination for XRF 020903: First Spectroscopic Observations of an X-Ray Flash.
- HALPERN, M. See NOLTA, M. R., et al. First Year *Wilkinson Microwave Anisotropy Probe* Observations: Dark Energy Induced Correlation with Radio Sources.
- HAMAGUCHI, KENJI. *Chandra* Observation of the Trifid Nebula: X-Ray Emission from the O Star Complex and Actively Forming Pre-Main-Sequence Stars. *Jeonghee Rho, Solange V. Ramirez, Michael F. Corcoran, Kenji Hamaguchi, & Bertrand Lefloch*. 607, 904 (2004)
- HAMANN, FRED. Active Galactic Nuclei Emission-Line Properties versus the Eddington Ratio. *Craig Warner, Fred Hamann, & Matthias Dietrich*. 608, 136 (2004)

- HAMILTON, ANDREW J. S. See TEGMARK, MAX, et al. The Three-dimensional Power Spectrum of Galaxies from the Sloan Digital Sky Survey.
- HAMUY, M. See SODERBERG, A. M., et al. A Redshift Determination for XRF 020903: First Spectroscopic Observations of an X-Ray Flash.
- HAN, J. L. The Inner Annular Gap for Pulsar Radiation: γ -Ray and Radio Emission. *G. J. Qiao, K. J. Lee, H. G. Wang, R. X. Xu, & J. L. Han.* 606, L49 (2004)
- HANAWA, TOMOYUKI. Self-Similar Gravitational Collapse of Radiatively Cooling Spheres. *Masakatsu Murakami, Katsunobu Nishihara, & Tomoyuki Hanawa.* 607, 879 (2004)
- HANNA, D. See SCALZO, R. A., et al. High-Energy Gamma-Ray Observations of W Comae with the Solar Tower Atmospheric Cerenkov Effect Experiment (STACEE). See KOSACK, K., et al. TeV Gamma-Ray Observations of the Galactic Center.
- HANSEN, FRODE K. Asymmetries in the Local Curvature of the Wilkinson Microwave Anisotropy Probe Data. *Frode K. Hansen, Paolo Cabella, Domenico Marinucci, & Nicola Vittorio.* 607, L67 (2004)
- HARA, S. See TSUCHIYA, K., et al. Detection of Sub-TeV Gamma Rays from the Galactic Center Direction by CANGAROO-II. See KAWACHI, A., et al. A Search for TeV Gamma-Ray Emission from the PSR B1259–63/SS 2883 Binary System with the Cangaroo-II 10 m Telescope.
- HARA, T. See TSUCHIYA, K., et al. Detection of Sub-TeV Gamma Rays from the Galactic Center Direction by CANGAROO-II. See KAWACHI, A., et al. A Search for TeV Gamma-Ray Emission from the PSR B1259–63/SS 2883 Binary System with the Cangaroo-II 10 m Telescope.
- HARDING, ALICE K. Relativistic Effects and Polarization in Three High-Energy Pulsar Models. *J. Dyks, Alice K. Harding, & B. Rudak.* 606, 1125 (2004) High-Altitude Particle Acceleration and Radiation in Pulsar Slot Gaps. *Alex G. Muslimov & Alice K. Harding.* 606, 1143 (2004) On the Methods of Determining the Radio Emission Geometry in Pulsar Magnetospheres. *J. Dyks, B. Rudak, & Alice K. Harding.* 607, 939 (2004)
- HARGIS, JONATHAN R. The Luminosity Function and Color-Magnitude Diagram of the Globular Cluster M12. *Jonathan R. Hargis, Eric L. Sandquist, & Michael Bolte.* 608, 243 (2004)
- HARKO, T. Nucleation of Quark Matter in Neutron Star Cores. *T. Harko, K. S. Cheng, & P. S. Tang.* 608, 945 (2004)
- HARNDEN, F. R., JR. See WOLK, S. J., et al. Coronal Variability in the Young Cluster NGC 2516. A Deep Chandra X-Ray Observation of the Rich Young Cluster NGC 6530. I. The X-Ray Source Catalog and the Cluster Population. *F. Damiani, E. Flaccomio, G. Micela, S. Sciortino, F. R. Harnden, Jr., & S. S. Murray.* 608, 781 (2004)
- HARPER, G. M. See GRADY, C. A., et al. The Environment of the Optically Brightest Herbig Ae Star, HD 104237.
- HARRIS, H. C. A Helium White Dwarf of Extremely Low Mass. *James Liebert, P. Bergeron, Daniel Eisenstein, H. C. Harris, S. J. Kleinman, Atsuko Nitta, & Jurek Krzesinski.* 606, L147 (2004)
- HARRIS, HUGH C. See KLEINMAN, S. J., et al. A Catalog of Spectroscopically Identified White Dwarf Stars in the First Data Release of the Sloan Digital Sky Survey.
- HARRIS, JASON. Variations in Star Formation History and the Red Giant Branch Tip. *Michael K. Barker, Ata Sarajedini, & Jason Harris.* 606, 869 (2004)
- HARRIS, WALTER M. Oxygen/Hydrogen Chemistry in the Inner Comae of Active Comets. *Robert J. Glinski, Brian J. Ford, Walter M. Harris, Christopher M. Anderson, & Jeffery P. Morganthaler.* 608, 601 (2004)
- HARTMANN, L. See BRICEÑO, C., et al. McNeil's Nebula in Orion: The Outburst History.
- HASHIMOTO, MASA-AKI. Numerical Analyses of Isotopic Ratios of Presolar Grains from Supernovae. *Takashi Yoshida & Masa-aki Hashimoto.* 606, 592 (2004)
- HASINGER, GUENTHER. See NORMAN, COLIN, et al. The X-Ray-derived Cosmological Star Formation History and the Galaxy X-Ray Luminosity Functions in the Chandra Deep Fields North and South.
- HATANO, KAZUHIITO. See BRANCH, DAVID, et al. Direct Analysis of Spectra of the Peculiar Type Ia Supernova 2000cx.
- HATTORI, T. See TSUCHIYA, K., et al. Detection of Sub-TeV Gamma Rays from the Galactic Center Direction by CANGAROO-II. See KAWACHI, A., et al. A Search for TeV Gamma-Ray Emission from the PSR B1259–63/SS 2883 Binary System with the Cangaroo-II 10 m Telescope.
- HAUGBØLLE, T. Magnetic Field Generation in Collisionless Shocks: Pattern Growth and Transport. *J. Trier Frederiksen, C. B. Heddal, T. Haugbølle, & Å. Nordlund.* 608, L13 (2004)
- HAUNGS, A. See ANTONI, T., et al. Search for Cosmic-Ray Point Sources with KASCADE.
- HAWLEY, JOHN F. Magnetically Driven Accretion Flows in the Kerr Metric. II. Structure of the Magnetic Field. *Shigenobu Hirose, Julian H. Krolik, Jean-Pierre De Villiers, & John F. Hawley.* 606, 1083 (2004)
- HAWLEY, SUZANNE L. See KLEINMAN, S. J., et al. A Catalog of Spectroscopically Identified White Dwarf Stars in the First Data Release of the Sloan Digital Sky Survey.
- HAYASHI, E. See GOVERNATO, F., et al. The Formation of a Realistic Disk Galaxy in Λ -dominated Cosmologies.
- HAYASHI, SEI. See TSUCHIYA, K., et al. Detection of Sub-TeV Gamma Rays from the Galactic Center Direction by CANGAROO-II.
- HAYASHI, SEIICHI. See KAWACHI, A., et al. A Search for TeV Gamma-Ray Emission from the PSR B1259–63/SS 2883 Binary System with the Cangaroo-II 10 m Telescope.
- HAYASHI, SHIN'ICHIRO. See KAWACHI, A., et al. A Search for TeV Gamma-Ray Emission from the PSR B1259–63/SS 2883 Binary System with the Cangaroo-II 10 m Telescope.
- HAYNES, MARTHA P. The Impact of Distance Uncertainties on Local Luminosity and Mass Functions. *Karen L. Masters, Martha P. Haynes, & Riccardo Giovanelli.* 607, L115 (2004)
- HAYS, E. See ATKINS, R., et al. TeV Gamma-Ray Survey of the Northern Hemisphere Sky Using the Milagro Observatory.
- HEAP, S. R. Terminal Velocities of Luminous, Early-Type Small Magellanic Cloud Stars. *C. J. Evans, D. J. Lennon, C. Trundle, S. R. Heap, & D. J. Lindler.* 607, 451 (2004)
- HEARNshaw, J. B. See BOND, I. A., et al. OGLE 2003-BLG-235/MOA 2003-BLG-53: A Planetary Microlensing Event.
- HEATHCOTE, STEVE R. The Irradiated Herbig-Haro Jets near σ Orionis. *Sean M. Andrews, Bo Reipurth, John Bally, & Steve R. Heathcote.* 606, 353 (2004)
- HEATON, HAROLD I. The Production of H I in Photodissociation Regions and a Comparison with CO (1–0) Emission. *Ronald J. Allen, Harold I. Heaton, & Michael J. Kaufman.* 608, 314 (2004)
- HECK, D. See ANTONI, T., et al. Search for Cosmic-Ray Point Sources with KASCADE.
- HECKMAN, T. M. See WANG, J. X., et al. X-Ray Nondetection of the Ly α Emitters at $z \sim 4.5$.
- HECKMAN, TIM. See NORMAN, COLIN, et al. The X-Ray-derived Cosmological Star Formation History and the Galaxy X-Ray Luminosity Functions in the Chandra Deep Fields North and South.
- HECKMAN, TIMOTHY M. A High Spatial Resolution X-Ray and H α Study of Hot Gas in the Halos of Star-Forming Disk Galaxies. II. Quantifying Supernova Feedback. *David K. Strickland, Timothy M. Heckman, Edward J. M. Colbert, Charles G. Hoopes, & Kimberly A. Weaver.* 606, 829 (2004)
- HEDEDAL, C. B. Magnetic Field Generation in Collisionless Shocks: Pattern Growth and Transport. *J. Trier Frederiksen, C. B. Heddal, T. Haugbølle, & Å. Nordlund.* 608, L13 (2004)
- HEGER, A. The Propagation and Eruption of Relativistic Jets from the Stellar Progenitors of Gamma-Ray Bursts. *Weiqun Zhang, S. E. Woosley, & A. Heger.* 608, 365 (2004)
- HEINZ, SEBASTIAN. Observations of A4059 with the Chandra, Hubble Space Telescope, and the Very Large Array: Unraveling a Complex Cluster/Radio Galaxy Interaction. *Yun-Young Choi, Christopher S. Reynolds, Sebastian Heinz, Jessica L. Rosenberg, Eric S. Perlman, & Jongmann Yang.* 606, 185 (2004)
- HEITHAUSEN, ANDREAS. Molecular Hydrogen as Baryonic Dark Matter. *Andreas Heithausen.* 606, L13 (2004)
- HEITSCH, F. Kelvin-Helmholtz Instability in a Weakly Ionized Medium. *C. Watson, E. G. Zweibel, F. Heitsch, & E. Churchwell.* 608, 274 (2004)
- HELFAND, DAVID J. FIRST-2MASS Sources below the APM Detection Threshold: A Population of Highly Reddened Quasars. *Eilat Glikman, Michael D. Gregg, Mark Lacy, David J. Helfand, Robert H. Becker, & Richard L. White.* 607, 60 (2004)
- HEMSENDORF, MARC. Core Formation by a Population of Massive Remnants. *David Merritt, Sławomir Piatek, Simon Portegies Zwart, & Marc Hemsendorf.* 608, L25 (2004)

- HENNAWI, JOSEPH F. Beyond the Damping Tail: Cross-Correlating the Kinetic Sunyaev-Zel'dovich Effect with Cosmic Shear. *Olivier Doré, Joseph F. Hennawi, & David N. Spergel*. 606, 46 (2004)
- HENNESSY, GREG. See TEGMARK, MAX, et al. The Three-dimensional Power Spectrum of Galaxies from the Sloan Digital Sky Survey.
- HENNING, T. See GRADY, C. A., et al. The Environment of the Optically Brightest Herbig Ae Star, HD 104237.
- HENRY, J. P. See MULLIS, C. R., et al. Evolution of the Cluster X-Ray Luminosity Function.
- HERCZEG, G. J. See GRADY, C. A., et al. The Environment of the Optically Brightest Herbig Ae Star, HD 104237.
- HERCZEG, GREGORY J. The Far-Ultraviolet Spectra of TW Hydrae. II. Models of H₂ Fluorescence in a Disk. *Gregory J. Herczeg, Brian E. Wood, Jeffrey L. Linsky, Jeff A. Valenti, & Christopher M. Johns-Krull*. 607, 369 (2004)
- HERMANN, G. A New Measurement of the Intensities of the Heavy Primary Cosmic-Ray Nuclei around 1 TeV amu⁻¹. *F. Gähbauer, G. Hermann, J. R. Hörandel, D. Müller, & A. A. Radu*. 607, 333 (2004)
- HERNÁNDEZ, J. See RENGSTORF, A. W., et al. New Quasars Detected via Variability in the QUEST1 Survey.
- See BRICEÑO, C., et al. McNeil's Nebula in Orion: The Outburst History.
- HERNQUIST, LARS. Disk Galaxy Formation in a Λ Cold Dark Matter Universe. *Brant Robertson, Naoki Yoshida, Volker Springel, & Lars Hernquist*. 606, 32 (2004)
- Ultraviolet Line Emission from Metals in the Low-Redshift Intergalactic Medium. *Steven R. Furlanetto, Joop Schaye, Volker Springel, & Lars Hernquist*. 606, 221 (2004)
- 21 Centimeter Fluctuations from Cosmic Gas at High Redshifts. *Matias Zaldarriaga, Steven R. Furlanetto, & Lars Hernquist*. 608, 622 (2004)
- HILL, A. B. See BIRD, A. J., et al. The First IBIS/ISGRI Soft Gamma-Ray Galactic Plane Survey Catalog.
- HILL, F. Activity-Related Changes in Local Solar Acoustic Mode Parameters from the Michelson Doppler Imager and Global Oscillations Network Group. *R. Howe, R. W. Komm, F. Hill, D. A. Haber, & B. W. Hindman*. 608, 562 (2004)
- HILL, G. J. The Munich Near-Infrared Cluster Survey (MUNICS). VI. The Stellar Masses of K-Band-Selected Field Galaxies to $z \sim 1.2$. *N. Drory, R. Bender, G. Feulner, U. Hopp, C. Maraston, J. Snigula, & G. J. Hill*. 608, 742 (2004)
- HILL, R. S. See GRADY, C. A., et al. The Environment of the Optically Brightest Herbig Ae Star, HD 104237.
- HILLAS, A. M. See KOSACK, K., et al. TeV Gamma-Ray Observations of the Galactic Center.
- HILLIER, D. JOHN. On the Steady Nature of Line-Driven Disk Winds. *Nicolas A. Pereyra, Stanley P. Owocki, D. John Hillier, & David A. Turnshek*. 608, 454 (2004)
- HINDMAN, B. W. Activity-Related Changes in Local Solar Acoustic Mode Parameters from the Michelson Doppler Imager and Global Oscillations Network Group. *R. Howe, R. W. Komm, F. Hill, D. A. Haber, & B. W. Hindman*. 608, 562 (2004)
- HINSHAW, G. See NOLTA, M. R., et al. First Year Wilkinson Microwave Anisotropy Probe Observations: Dark Energy Induced Correlation with Radio Sources.
- HIRANO, TSUNEO. Ab Initio Direct Trajectory Simulation with Nonadiabatic Transitions of the Dissociative Recombination Reaction $\text{HCNH}^+ + e^- \rightarrow \text{HNC}/\text{HCN} + \text{H}$. *Tetsuya Taketsugu, Asami Tajima, Keisaku Ishii, & Tsuneo Hirano*. 608, 323 (2004)
- HIROSE, SHIGENOBU. Magnetically Driven Accretion Flows in the Kerr Metric. II. Structure of the Magnetic Field. *Shigenobu Hirose, Julian H. Krolik, Jean-Pierre De Villiers, & John F. Hawley*. 606, 1083 (2004)
- Distribution of Faraday Rotation Measure in Jets from Active Galactic Nuclei. II. Prediction from our Sweeping Magnetic Twist Model for the Wiggled Parts of Active Galactic Nucleus Jets and Tails. *Hiromitsu Kigure, Yutaka Uchida, Masanori Nakamura, Shigenobu Hirose, & Robert Cameron*. 608, 119 (2004)
- HO, L. C. Testing Radiatively Inefficient Accretion Flow Theory: An XMM-Newton Observation of NGC 3998. *A. Ptak, Y. Terashima, L. C. Ho, & E. Quataert*. 606, 173 (2004)
- HO, LUIS C. POX 52: A Dwarf Seyfert 1 Galaxy with an Intermediate-Mass Black Hole. *Aaron J. Barth, Luis C. Ho, Robert E. Rutledge, & Wallace L. W. Sargent*. 607, 90 (2004)
- HO, PAUL T. P. The Case for Local Collapse in the W51 Star-forming Region. *Peter K. Sollins, Qizhou Zhang, & Paul T. P. Ho*. 606, 943 (2004)
- HO, SHIRLEY. Halo Asphericity and the Shear Three-Point Function. *Shirley Ho & Martin White*. 607, 40 (2004)
- HO, WYNN C. G. Spectral Features in the Thermal Emission from Isolated Neutron Stars: Dependence on Magnetic Field Strengths. *Wynn C. G. Ho & Dong Lai*. 607, 420 (2004)
- HÖFLICH, PETER. See GERARDY, CHRISTOPHER L., et al. SN 2003du: Signatures of the Circumstellar Environment in a Normal Type Ia Supernova?
- HOEKSTRA, HENK. Properties of Galaxy Dark Matter Halos from Weak Lensing. *Henk Hoekstra, H. K. C. Yee, & Michael D. Gladders*. 606, 67 (2004)
- HOEKSTRA, R. Catching Some Sun: Probing the Solar Wind with Cometary X-Ray and Far-Ultraviolet Emission. *D. Bodewits, Z. Juhász, R. Hoekstra, & A. G. G. M. Tielens*. 606, L81 (2004)
- HÖRANDEL, J. R. A New Measurement of the Intensities of the Heavy Primary Cosmic-Ray Nuclei around 1 TeV amu⁻¹. *F. Gähbauer, G. Hermann, J. R. Hörandel, D. Müller, & A. A. Radu*. 607, 333 (2004)
- See ANTONI, T., et al. Search for Cosmic-Ray Point Sources with KASCADE.
- HOFFMAN, C. M. See ATKINS, R., et al. TeV Gamma-Ray Survey of the Northern Hemisphere Sky Using the Milagro Observatory.
- HOFFMAN, R. D. Nucleosynthesis in Outflows from the Inner Regions of Collapsars. *Jason Priet, Todd A. Thompson, & R. D. Hoffman*. 606, 1006 (2004)
- HOFFMAN, YEHUDA. Flat-cored Dark Matter in Cuspy Clusters of Galaxies. *Amr A. El-Zant, Yehuda Hoffman, Joel Primack, Françoise Combes, & Isaac Shlosman*. 607, L75 (2004)
- HOFFMANN, D. H. H. Quiet-Sun X-Rays as Signature for New Particles. *K. Zioutas, K. Dennerl, L. DiLella, D. H. H. Hoffmann, J. Jacoby, & Th. Papaevangelou*. 607, 575 (2004)
- HOGEHEIJDE, MICHEL R. See STARK, RONALD, et al. Probing the Early Stages of Low-Mass Star Formation in LDN 1689N: Dust and Water in IRAS 16293–2422A, B, and E.
- HOGG, DAVID W. See TEGMARK, MAX, et al. The Three-dimensional Power Spectrum of Galaxies from the Sloan Digital Sky Survey.
- HOLDER, J. See KOSACK, K., et al. TeV Gamma-Ray Observations of the Galactic Center.
- HOLZ, DANIEL E. How Black Holes Get Their Kicks: Gravitational Radiation Recoil Revisited. *Marc Favata, Scott A. Hughes, & Daniel E. Holz*. 607, L5 (2004)
- Consequences of Gravitational Radiation Recoil. *David Merritt, Miloš Milosavljević, Marc Favata, Scott A. Hughes, & Daniel E. Holz*. 607, L9 (2004)
- HOLZER, THOMAS E. A Comparison of CME-Associated Atmospheric Waves Observed in Coronal (Fe XII 195 Å) and Chromospheric (He I 10830 Å) Lines. *Holly R. Gilbert, Thomas E. Holzer, Barbara J. Thompson, & Joan T. Burkepile*. 607, 540 (2004)
- HOMAN, J. See MILLER, J. M., et al. Evidence of Black Hole Spin in GX 339–4: XMM-Newton/EPIC-pn and RXTE Spectroscopy of the Very High State.
- HOMAN, JEROEN. Monitoring Chandra Observations of the Quasi-persistent Neutron Star X-Ray Transient MXB 1659–29 in Quiescence: The Cooling Curve of the Heated Neutron Star Crust. *Rudy Wijnands, Jeroen Homan, Jon M. Miller, & Walter H. G. Lewin*. 606, L61 (2004)
- HOMEIER, D. See MUKADAM, ANJUM S., et al. Thirty-Five New Pulsating DA White Dwarf Stars.
- HONDA, SATOSHI. Spectroscopic Studies of Extremely Metal-poor Stars with the Subaru High Dispersion Spectrograph. II. The r -Process Elements, Including Thorium. *Satoshi Honda, Wako Aoki, Toshihiko Kajino, Hiroyasu Ando, Timothy C. Beers, Hideyuki Izumiura, Kozo Sadakane, & Masahide Takada-Hidai*. 607, 474 (2004)
- HONEYCUTT, R. K. See RENGSTORF, A. W., et al. New Quasars Detected via Variability in the QUEST1 Survey.
- HOOPES, CHARLES G. A High Spatial Resolution X-Ray and H α Study of Hot Gas in the Halos of Star-Forming Disk Galaxies. II. Quantifying Supernova Feedback. *David K. Strickland, Timothy M. Heckman, Edward J. M. Colbert, Charles G. Hoopes, & Kimberly A. Weaver*. 606, 829 (2004)
- HOPP, U. The Munich Near-Infrared Cluster Survey (MUNICS). VI. The Stellar Masses of K-Band-Selected Field Galaxies to $z \sim 1.2$. *N. Drory, R. Bender, G. Feulner, U. Hopp, C. Maraston, J. Snigula, & G. J. Hill*. 608, 742 (2004)
- HORAN, D. See KOSACK, K., et al. TeV Gamma-Ray Observations of the Galactic Center.

- HORNSCHEMEIER, ANN. See NORMAN, COLIN, et al. The X-Ray-derived Cosmological Star Formation History and the Galaxy X-Ray Luminosity Functions in the *Chandra* Deep Fields North and South.
- HORNSTRUP, A. See MULLIS, C. R., et al. Evolution of the Cluster X-Ray Luminosity Function.
- HOSOKAWA, TAKASHI. Cosmological Growth History of Supermassive Black Holes and Demographics in the High- z Universe: Do Lyman Break Galaxies Have Supermassive Black Holes? *Takashi Hosokawa*. 606, 139 (2004)
- HOWARTH, IAN D. A CNO Dichotomy among O2 Giant Spectra in the Magellanic Clouds. *Nolan R. Walborn, Nidia I. Morrell, Ian D. Howarth, Paul A. Crowther, Daniel J. Lennon, Philip Massey, & Julia I. Arias*. 608, 1028 (2004)
- HOWE, R. Activity-Related Changes in Local Solar Acoustic Mode Parameters from the Michelson Doppler Imager and Global Oscillations Network Group. *R. Howe, R. W. Komm, F. Hill, D. A. Haber, & B. W. Hindman*. 608, 562 (2004)
- HOYER, S. See BRICEÑO, C., et al. McNeil's Nebula in Orion: The Outburst History.
- HOYLE, FIONA. See TEGMARK, MAX, et al. The Three-dimensional Power Spectrum of Galaxies from the Sloan Digital Sky Survey. Voids in the Two-Degree Field Galaxy Redshift Survey. *Fiona Hoyle & Michael S. Vogeley*. 607, 751 (2004)
- HU, JIAN. Magnetic Sunyaev-Zeldovich Effect in Galaxy Clusters. *Jian Hu & Yu-Qing Lou*. 606, L1 (2004)
- HU, Y. Q. Energy Buildup of Multipolar Magnetic Fields by Photospheric Shear Motion. *Y. Q. Hu*. 607, 1032 (2004)
- HUANG, W. See BARAI, P., et al. Mass and Angular Momentum Transfer in the Massive Algol Binary RY Persei.
- HUBBARD, W. B. Effects of Helium Phase Separation on the Evolution of Extrasolar Giant Planets. *Jonathan J. Fortney & W. B. Hubbard*. 608, 1039 (2004)
- HUESTIS, DAVID L. Measurements of the Singly Ionized Oxygen Auroral Doublet Lines $\lambda\lambda 7320, 7330$ Using High-Resolution Sky Spectra. *Brian D. Sharpee, Tom G. Slinger, David L. Huestis, & Philip C. Cosby*. 606, 605 (2004)
- HUGHES, JOHN P. Raising the Dead: Clues to Type Ia Supernova Physics from the Remnant 0509-67.5. *Jessica S. Warren & John P. Hughes*. 608, 261 (2004)
- HUGHES, SCOTT A. How Black Holes Get Their Kicks: Gravitational Radiation Recoil Revisited. *Marc Favata, Scott A. Hughes, & Daniel E. Holz*. 607, L5 (2004)
- Consequences of Gravitational Radiation Recoil. *David Merritt, Miloš Milosavljević, Marc Favata, Scott A. Hughes, & Daniel E. Holz*. 607, L9 (2004)
- HUI, C. Y. The Effects of Rotation on Thermal X-Ray Afterglows Resulting from Pulsar Glitches. *C. Y. Hui & K. S. Cheng*. 608, 935 (2004)
- HUI, LAM. See TEGMARK, MAX, et al. The Three-dimensional Power Spectrum of Galaxies from the Sloan Digital Sky Survey.
- HUNT, LESLIE K. The Radio Continuum of the Metal-deficient Blue Compact Dwarf Galaxy SBS 0335-052. *Leslie K. Hunt, Kristy K. Dyer, Trinh X. Thuan, & James S. Ulvestad*. 606, 853 (2004)
- HUNT, M. P. See SODERBERG, A. M., et al. A Redshift Determination for XRF 020903: First Spectroscopic Observations of an X-Ray Flash.
- HUNT, MATTHEW P. Optical Selection of Star-Forming Galaxies at Redshifts $1 < z < 3$. *Kurt L. Adelberger, Charles C. Steidel, Alice E. Shapley, Matthew P. Hunt, Dawn K. Erb, Naveen A. Reddy, & Max Pettini*. 607, 226 (2004)
- HUNTER, T. R. IRAS 18317-0757: A Cluster of Embedded Massive Stars and Protostars. *T. R. Hunter, Q. Zhang, & T. K. Sridharan*. 606, 929 (2004)
- HYDE, E. A. See REED, M. D., et al. Discovery of Gravity-Mode Pulsators among Subdwarf B Stars: PG 1716+426, the Class Prototype.
- HYNES, R. I. The Discovery of Optical Bursts from MS 1603.6+2600 (UW Coronae Borealis). *R. I. Hynes, E. L. Robinson, & E. Jeffery*. 608, L101 (2004)
- ICHIMOTO, KIYOSHI. Existence of Nanoparticle Dust Grains in the Inner Solar Corona? *Jagdev Singh, Takashi Sakurai, Kiyoshi Ichimoto, Masaaki Hagino, & Tetsuya T. Yamamoto*. 608, L69 (2004)
- IGLESIAS-GROTH, SUSANA. Fullerenes and Buckyonions in the Interstellar Medium. *Susana Iglesias-Groth*. 608, L37 (2004)
- ILLINGWORTH, G. D. See BOUWENS, R. J., et al. Star Formation at $z \sim 6$: The Hubble Ultra Deep Parallel Fields.
- INDEBETOUW, REMY. O VI, N V, and C IV in the Galactic Halo. II. Velocity-Resolved Observations with the *Hubble Space Telescope* and *Far Ultraviolet Spectroscopic Explorer*. *Remy Indebetouw & J. Michael Shull*. 607, 309 (2004)
- IOKA, KUNIHITO. Peak Energy-Isotropic Energy Relation in the Off-Axis Gamma-Ray Burst Model. *Ryo Yamazaki, Kunihito Ioka, & Takashi Nakamura*. 606, L33 (2004)
- A Unified Model of Short and Long Gamma-Ray Bursts, X-Ray-rich Gamma-Ray Bursts, and X-Ray Flashes. *Ryo Yamazaki, Kunihito Ioka, & Takashi Nakamura*. 607, L103 (2004)
- ISHIDA, MANABU. Non-LTE Curves of Growth of X-Ray Absorption Lines. *Kuniaki Masai & Manabu Ishida*. 607, 76 (2004)
- ISHII, KEISAKU. Ab Initio Direct Trajectory Simulation with Nonadiabatic Transitions of the Dissociative Recombination Reaction $\text{HCNH}^+ + e^- \rightarrow \text{HNC}/\text{HCN} + \text{H}$. *Tetsuya Taketsugu, Asami Tajima, Keisaku Ishii, & Tsuneo Hirano*. 608, 323 (2004)
- ISHII, TAKAKO T. Erratum: The Luminosity Function of IRAS Point Source Catalog Redshift Survey Galaxies (ApJ, 587, L89 [2003]). *Tsutomu T. Takeuchi, Kohji Yoshikawa, & Takako T. Ishii*. 606, L171 (2004) (Orig. paper in 587, L89 (2003))
- ISHWARA-CHANDRA, C. H. Giant Metrewave Radio Telescope Discovery of a Millisecond Pulsar in a Very Eccentric Binary System. *Paulo C. Freire, Yashwant Gupta, Scott M. Ransom, & C. H. Ishwara-Chandra*. 606, L53 (2004)
- ISLIKER, HEINZ. Particle Acceleration in an Evolving Network of Unstable Current Sheets. *Loukas Vlahos, Heinz Isliker, & Fabio Lepreti*. 608, 540 (2004)
- ISRAEL, G. L. Pronounced Long-Term Flux Variability of the Anomalous X-Ray Pulsar 1E 1048.1-5937. *S. Mereghetti, A. Tiengo, L. Stella, G. L. Israel, N. Rea, S. Zane, & T. Oosterbroek*. 608, 427 (2004)
- ISSAUTIER, K. A Transonic Collisionless Model of the Solar Wind. *I. Zouganelis, M. Maksimovic, N. Meyer-Vernet, H. Lamy, & K. Issautier*. 606, 542 (2004)
- ITO, C. See TSUCHIYA, K., et al. Detection of Sub-TeV Gamma Rays from the Galactic Center Direction by CANGAROO-II.
- See KAWACHI, A., et al. A Search for TeV Gamma-Ray Emission from the PSR B1259-63/SS 2883 Binary System with the Cangaroo-II 10 m Telescope.
- ITO, NAOKI. The r -Process in Supernovae: Impact of New Microscopic Mass Formulae. *Shinya Wanajo, Stephane Goriely, Mathieu Samyn, & Naoki Itoh*. 606, 1057 (2004)
- IVEZIĆ, ŽELJKO. See TEGMARK, MAX, et al. The Three-dimensional Power Spectrum of Galaxies from the Sloan Digital Sky Survey.
- IVISON, R. J. Further Multiwavelength Observations of the SSA 22 Ly α -emitting "Blob." *S. C. Chapman, D. Scott, R. A. Windhorst, D. T. Frayer, C. Borys, G. F. Lewis, & R. J. Ivison*. 606, 85 (2004)
- IZOTOV, YURI I. *Chandra* Observations of the Three Most Metal Deficient Blue Compact Dwarf Galaxies Known in the Local Universe, SBS 0335-052, SBS 0335-052W, and I Zw 18. *Trinh X. Thuan, Franz E. Bauer, Polichronis Papaderos, & Yuri I. Izotov*. 606, 213 (2004)
- IZUMIURA, HIDEYUKI. Spectroscopic Studies of Extremely Metal-poor Stars with the Subaru High Dispersion Spectrograph. II. The r -Process Elements, Including Thorium. *Satoshi Honda, Wako Aoki, Toshitaka Kajino, Hiroyasu Ando, Timothy C. Beers, Hideyuki Izumiura, Kozo Sadakane, & Masahide Takada-Hidai*. 607, 474 (2004)
- J. WIJERS, R. A. M. See KOUVELIOTOU, C., et al. *Chandra* Observations of the X-Ray Environs of SN 1998bw/GRB 980425.
- JACKSON, STEPHEN. Models for the Rapidly Rotating Be Star Achernar. *Stephen Jackson, Keith B. MacGregor, & Andrew Skumanich*. 606, 1196 (2004)
- JACKSON, WILLIAM M. Using the Ultraviolet and Visible Spectrum of Comet 122P/de Vico to Identify the Parent Molecule CS₂. *William M. Jackson, Alessandra Scodinu, Dadong Xu, & Anita L. Cochran*. 607, L139 (2004)
- JACOBY, J. Quiet-Sun X-Rays as Signature for New Particles. *K. Zioutas, K. Dennerl, L. DiLella, D. H. H. Hoffmann, J. Jacoby, & Th. Papaevangelou*. 607, 575 (2004)
- JAIN, BHUVNESH. See TEGMARK, MAX, et al. The Three-dimensional Power Spectrum of Galaxies from the Sloan Digital Sky Survey.
- See POPE, ADRIAN C., et al. Cosmological Parameters from Eigenmode Analysis of Sloan Digital Sky Survey Galaxy Redshifts.
- JANARDHAN, P. Radio Observations of Rapid Acceleration in a Slow Filament Eruption/Fast Coronal Mass Ejection Event. *M. R. Kundu, S. M. White,*

- V. I. Garaimov, P. K. Manoharan, P. Subramanian, S. Ananthakrishnan, & P. Janardhan. 607, 530 (2004)
- JANG-CONDELL, HANNAH. Disk Temperature Variations and Effects on the Snow Line in the Presence of Small Protoplanets. *Hannah Jang-Condell & Dimitar D. Sasselov*. 608, 497 (2004)
- JAROSIK, N. See NOLTA, M. R., et al. First Year Wilkinson Microwave Anisotropy Probe Observations: Dark Energy Induced Correlation with Radio Sources.
- JAROSZYŃSKI, M. See BOND, I. A., et al. OGLE 2003-BLG-235/MOA 2003-BLG-53: A Planetary Microlensing Event.
- JARVIS, A. See SCALZO, R. A., et al. High-Energy Gamma-Ray Observations of W Comae with the Solar Tower Atmospheric Cerenkov Effect Experiment (STACEE).
See KOSACK, K., et al. TeV Gamma-Ray Observations of the Galactic Center.
- JEFFERY, E. The Discovery of Optical Bursts from MS 1603.6+2600 (UW Coronae Borealis). *R. I. Hynes, E. L. Robinson, & E. Jeffery*. 608, L101 (2004)
- JEFFERY, E. J. See REED, M. D., et al. Discovery of Gravity-Mode Pulsators among Subdwarf B Stars: PG 1716+426, the Class Prototype.
- JEFFRIES, R. D. See WOLK, S. J., et al. Coronal Variability in the Young Cluster NGC 2516.
- JENET, FREDRICK A. Constraining the Properties of Supermassive Black Hole Systems Using Pulsar Timing: Application to 3C 66B. *Fredrick A. Jenet, Andrea Lommen, Shane L. Larson, & Lingling Wen*. 606, 799 (2004)
- JHA, SAURABH. See RIESS, ADAM G., et al. Type Ia Supernova Discoveries at $z > 1$ from the Hubble Space Telescope: Evidence for Past Deceleration and Constraints on Dark Energy Evolution.
- Ji, HAISHENG. Traces of the Dynamic Current Sheet during a Solar Flare. *Haisheng Ji, Haimin Wang, Philip R. Goode, Yunchun Jiang, & V. Yurchyshyn*. 607, L55 (2004)
- JIANG, YUNCHUN. Traces of the Dynamic Current Sheet during a Solar Flare. *Haisheng Ji, Haimin Wang, Philip R. Goode, Yunchun Jiang, & V. Yurchyshyn*. 607, L55 (2004)
- JIANG, Z. J. Gamma-Ray Emission Properties from Mature Pulsars in the Galaxy and in the Gould Belt. *K. S. Cheng, L. Zhang, P. Leung, & Z. J. Jiang*. 608, 418 (2004)
- JIMENEZ-GARATE, MARIO A. Reprocessing of Soft X-Ray Emission Lines in Black Hole Accretion Disks. *Christopher W. Mauche, Duane A. Liedahl, Benjamin F. Mathiesen, Mario A. Jimenez-Garate, & John C. Raymond*. 606, 168 (2004)
- JING, JU. Near-Infrared Observations at 1.56 Microns of the 2003 October 29 X10 White-Light Flare. *Yan Xu, Wenda Cao, Chang Liu, Guo Yang, Jiong Qiu, Ju Jing, Carsten Denker, & Haimin Wang*. 607, L131 (2004)
- JING, Y. P. The Three-Point Correlation Function of Galaxies Determined from the Two-Degree Field Galaxy Redshift Survey. *Y. P. Jing & G. Börner*. 607, 140 (2004)
- JOHNS-KRULL, CHRISTOPHER M. The Far-Ultraviolet Spectra of TW Hydrae. II. Models of H₂ Fluorescence in a Disk. *Gregory J. Herczeg, Brian E. Wood, Jeffrey L. Linsky, Jeff A. Valenti, & Christopher M. Johns-Krull*. 607, 369 (2004)
- JOHNSTON, DAVID. See TEGMARK, MAX, et al. The Three-dimensional Power Spectrum of Galaxies from the Sloan Digital Sky Survey.
See POPE, ADRIAN C., et al. Cosmological Parameters from Eigenmode Analysis of Sloan Digital Sky Survey Galaxy Redshifts.
- JOHNSTONE, DOUG. Photoevaporation of Circumstellar Disks around Young Stars. *Andreea S. Font, Ian G. McCarthy, Doug Johnstone, & David R. Ballantyne*. 607, 890 (2004)
- JOKIPII, J. R. Abundances of Heavy and Ultraheavy Ions in ³He-rich Solar Flares. *G. M. Mason, J. E. Mazur, J. R. Dwyer, J. R. Jokipii, R. E. Gold, & S. M. Krimigis*. 606, 555 (2004)
- JONES, C. Direct Constraints on the Dark Matter Self-Interaction Cross Section from the Merging Galaxy Cluster 1E 0657–56. *M. Markevitch, A. H. Gonzalez, D. Clowe, A. Vikhlinin, W. Forman, C. Jones, S. Murray, & W. Tucker*. 606, 819 (2004)
See MULLIS, C. R., et al. Evolution of the Cluster X-Ray Luminosity Function.
- JONSSON, PATRIK. Generating Hot Gas in Simulations of Disk-Galaxy Major Mergers. *T. J. Cox, Joel Primack, Patrik Jonsson, & Rachel S. Somerville*. 607, L87 (2004)
- JORDÁN, ANDRÉS. X-Ray and Optical Filaments in M87. *William B. Sparks, Megan Donahue, Andrés Jordán, Laura Ferrarese, & Patrick Côté*. 607, 294 (2004)
- JORDON, M. See KOSACK, K., et al. TeV Gamma-Ray Observations of the Galactic Center.
- JOSEPH, T. New Nonthermal Filaments at the Galactic Center: Are They Tracing a Globally Ordered Magnetic Field? *T. N. LaRosa, Michael E. Nord, T. Joseph, W. Lazio, & Namir E. Kassim*. 607, 302 (2004)
- JOUNG, M. K. RYAN. Chondrule Formation and Protoplanetary Disk Heating by Current Sheets in Nonideal Magnetohydrodynamic Turbulence. *M. K. Ryan Joung, Mordecai-Mark Mac Low, & Denton S. Ebel*. 606, 532 (2004)
- JOY, MARSHALL K. A Deep Chandra Observation of the Distant Galaxy Cluster MS 1137.5+6625. *Laura Grego, Jan M. Vrilek, Leon Van Speybroeck, Laurence P. David, William Forman, John E. Carlstrom, Erik D. Reese, & Marshall K. Joy*. 608, 731 (2004)
- JUBELGAS, M. Thermal Conduction in Simulated Galaxy Clusters. *K. Dolag, M. Jubelgas, V. Springel, S. Borgani, & E. Rasia*. 606, L97 (2004)
- JUDA, M. Chandra Observations of the “Dark” Moon and Geocoronal Solar Wind Charge Transfer. *B. J. Wargelin, M. Markevitch, M. Juda, V. Kharchenko, R. Edgar, & A. Dalgarno*. 607, 596 (2004)
- JUDGE, PHILIP G. On the Formation of the Resonance Lines of Helium in the Sun. *Anna Pietarila & Philip G. Judge*. 606, 1239 (2004)
On the Formation of Extreme-Ultraviolet Helium Lines in the Sun: Analysis of SOHO Data. *Philip G. Judge & Anna Pietarila*. 606, 1258 (2004)
- JUHÁSZ, Z. Catching Some Sun: Probing the Solar Wind with Cometary X-Ray and Far-Ultraviolet Emission. *D. Bodewits, Z. Juhász, R. Hoekstra, & A. G. G. M. Tielens*. 606, L81 (2004)
- KABUKI, S. See TSUCHIYA, K., et al. Detection of Sub-TeV Gamma Rays from the Galactic Center Direction by CANGAROO-II.
See KAWACHI, A., et al. A Search for TeV Gamma-Ray Emission from the PSR B1259–63/SS 2883 Binary System with the Cangaroo-II 10 m Telescope.
- KAHN, S. M. See GU, M. F., et al. Laboratory Measurements of 3 → 2 X-Ray Emission Lines of Ne-like Ni XIX.
- KAHN, STEVEN M. Erratum: Resolving the Effects of Resonant X-Ray Line Scattering in Centaurus X-3 with Chandra (ApJ, 582, 959 [2003]). *Patrick S. Woźdowski, Duane A. Liedahl, Masao Sako, Steven M. Kahn, & Frederik Paerels*. 607, 1071 (2004) (Orig. paper in 582, 959 (2003))
- KAJINO, F. See TSUCHIYA, K., et al. Detection of Sub-TeV Gamma Rays from the Galactic Center Direction by CANGAROO-II.
See KAWACHI, A., et al. A Search for TeV Gamma-Ray Emission from the PSR B1259–63/SS 2883 Binary System with the Cangaroo-II 10 m Telescope.
- KAJINO, T. Neutrino Effects before, during, and after the Freezeout of the *r*-Process. *M. Terasawa, K. Langanke, T. Kajino, G. J. Mathews, & E. Kolbe*. 608, 470 (2004)
- KAJINO, TOSHITAKA. Spectroscopic Studies of Extremely Metal-poor Stars with the Subaru High Dispersion Spectrograph. II. The *r*-Process Elements, Including Thorium. *Satoshi Honda, Wako Aoki, Toshihiko Kajino, Hiroyasu Ando, Timothy C. Beers, Hideyuki Izumiura, Kozo Sadakane, & Masahide Takada-Hidai*. 607, 474 (2004)
- KALAS, PAUL G. A Submillimeter Search of Nearby Young Stars for Cold Dust: Discovery of Debris Disks around Two Low-Mass Stars. *Michael C. Liu, Brenda C. Matthews, Jonathan P. Williams, & Paul G. Kalas*. 608, 526 (2004)
- KAMIYA, K. See BOND, I. A., et al. OGLE 2003-BLG-235/MOA 2003-BLG-53: A Planetary Microlensing Event.
- KAMPERT, K. H. See ANTONI, T., et al. Search for Cosmic-Ray Point Sources with KASCADE.
- KANAAN, A. See MUKADAM, ANJUM S., et al. Thirty-Five New Pulsating DA White Dwarf Stars.
- KANDORI, RYO. N₂H⁺ Observations of Molecular Cloud Cores in Taurus. *Ken'ichi Tatematsu, Tomofumi Umemoto, Ryo Kandori, & Yutaro Sekimoto*. 606, 333 (2004)
- KAPLAN, D. L. A Strong, Broad Absorption Feature in the X-Ray Spectrum of the Nearby Neutron Star RX J1605.3+3249. *M. H. van Kerkwijk, D. L. Kaplan, M. Durant, S. R. Kulkarni, & F. Paerels*. 608, 432 (2004)
- KASEN, DANIEL. See BRANCH, DAVID, et al. Direct Analysis of Spectra of the Peculiar Type Ia Supernova 2000cx.
- KASHLINSKY, A. Detecting Population III Stars through Observations of Near-Infrared Cosmic Infrared Background Anisotropies. *A. Kashlinsky, R. Arendt, Jonathan P. Gardner, J. Mather, & S. Harvey Moseley*. 608, 1 (2004)

- KASHYAP, VINAY L. Doppler Shifts and Broadening and the Structure of the X-Ray Emission from Algol. *Sun Mi Chung, Jeremy J. Drake, Vinay L. Kashyap, Li Wei Lin, & Peter W. Ratzlaff*. 606, 1184 (2004)
- KASPI, S. See LIPKIN, Y. M., et al. The Detailed Optical Light Curve of GRB 030329.
- KASPI, VICTORIA M. A Comprehensive Study of the X-Ray Bursts from the Magnetar Candidate 1E 2259+586. *Fotis P. Gavril, Victoria M. Kaspi, & Peter M. Woods*. 607, 959 (2004)
- KASSIM, NAMIR E. New Nonthermal Filaments at the Galactic Center: Are They Tracing a Globally Ordered Magnetic Field? *T. N. LaRosa, Michael E. Nord, T. Joseph, W. Lazio, & Namir E. Kassim*. 607, 302 (2004)
- KASTNER, JOEL H. Constraining the X-Ray Luminosities of Asymptotic Giant Branch Stars: TX Camelopardalis and T Cassiopeia. *Joel H. Kastner & Noam Soker*. 608, 978 (2004)
- KATAGIRI, H. See TSUCHIYA, K., et al. Detection of Sub-TeV Gamma Rays from the Galactic Center Direction by CANGAROO-II.
- See KAWACHI, A., et al. A Search for TeV Gamma-Ray Emission from the PSR B1259–63/SS 2883 Binary System with the Cangaroo-II 10 m Telescope.
- KATAYAMA, HARUYOSHI. An X-Ray Measurement of Titan's Atmospheric Extent from Its Transit of the Crab Nebula. *Koji Mori, Hiroshi Tsunemi, Haruyoshi Katayama, David N. Burrows, Gordon P. Garmire, & Albert E. Metzger*. 607, 1065 (2004)
- KATO, KIYOSHI. An Insight into the Reaction Rates of the Ne-Na and Mg-Al Chains from the Abundance Anomalies in Globular Cluster Red Giants. *Masayuki Aikawa, Masayuki Y. Fujimoto, & Kiyoshi Kato*. 608, 983 (2004)
- KATO, MARIKO. Detection of Two-armed Spiral Shocks on the Accretion Disk of the Eclipsing Fast Nova V1494 Aquilae. *Izumi Hachisu, Mariko Kato, & Taichi Kato*. 606, L139 (2004)
- KATO, TAICHI. Detection of Two-armed Spiral Shocks on the Accretion Disk of the Eclipsing Fast Nova V1494 Aquilae. *Izumi Hachisu, Mariko Kato, & Taichi Kato*. 606, L139 (2004)
- KAUFMAN, MICHAEL J. The Production of H I in Photodissociation Regions and a Comparison with CO (1–0) Emission. *Ronald J. Allen, Harold I. Heaton, & Michael J. Kaufman*. 608, 314 (2004)
- KAWACHI, A. See TSUCHIYA, K., et al. Detection of Sub-TeV Gamma Rays from the Galactic Center Direction by CANGAROO-II.
- A Search for TeV Gamma-Ray Emission from the PSR B1259–63/SS 2883 Binary System with the Cangaroo-II 10 m Telescope. *A. Kawachi, T. Naito, J. R. Patterson, P. G. Edwards, A. Asahara, G. V. Bicknell, R. W. Clay, R. Enomoto, S. Gunji, S. Hara, T. Hara, T. Hattori, Seiichi Hayashi, Shin'ichi Hayashi, C. Itoh, S. Kabuki, F. Kajino, H. Katagiri, T. Kijime, L. Ksenofontov, H. Kubo, J. Kushida, Y. Matsubara, Y. Mizumoto, M. Mori, H. Moro, H. Muraishi, Y. Muraki, T. Nakase, D. Nishida, K. Nishijima, M. Ohishi, K. Okumura, R. J. Protheroe, K. Sakurazawa, D. L. Swaby, T. Tanimori, F. Tokana, K. Tsuchiya, H. Tsunoo, T. Uchida, A. Watanabe, S. Watanabe, S. Yanagita, T. Yoshida, & T. Yoshikoshi*. 607, 949 (2004)
- KAWAI, ATSUSHI. Structure of Dark Matter Halos from Hierarchical Clustering. III. Shallowing of the Inner Cusp. *Toshiyuki Fukushima, Atsushi Kawai, & Junichiro Makino*. 606, 625 (2004)
- KAWANO, NAOMI. Very High Iron Abundance of the Hot Gas around the cD Galaxy of the MKW 4 Cluster. *Yasushi Fukazawa, Naomi Kawano, & Kengo Kawashima*. 606, L109 (2004)
- KAWASHIMA, KENGO. Very High Iron Abundance of the Hot Gas around the cD Galaxy of the MKW 4 Cluster. *Yasushi Fukazawa, Naomi Kawano, & Kengo Kawashima*. 606, L109 (2004)
- KAYE, A. B. See BARAI, P., et al. Mass and Angular Momentum Transfer in the Massive Algol Binary RY Persei.
- KAYO, ISSHA. Cosmological Density Distribution Function from the Ellipsoidal Collapse Model in Real Space. *Yasuhiro Ohta, Issha Kayo, & Atsushi Taruya*. 608, 647 (2004)
- KAZANTZIDIS, STELIOS. Density Profiles of Cold Dark Matter Substructure: Implications for the Missing-Satellites Problem. *Stelios Kazantzidis, Lucio Mayer, Chiara Mastropietro, Jürg Diemand, Joachim Stadel, & Ben Moore*. 608, 663 (2004)
- KEATING, BRIAN. First Star Signature in Infrared Background Anisotropies. *Asantha Cooray, James J. Bock, Brian Keating, Andrew E. Lange, & T. Matsumoto*. 606, 611 (2004)
- KEENE, JOCELYN. Detection of Vibrationally Excited Ethyl Cyanide in the Interstellar Medium. *David M. Mehringer, J. C. Pearson, Jocelyn Keene, & T. G. Phillips*. 608, 306 (2004)
- KEYAMA, ATSUSHI. Filament Oscillations and Moreton Waves Associated with EIT Waves. *Takenori J. Okamoto, Hidekazu Nakai, Atsushi Keyama, Noriyuki Narukage, Satoru Ueno, Reizaburo Kitai, Hiroki Kurokawa, & Kazumari Shibata*. 608, 1124 (2004)
- KELLER, C. U. On the Origins of Solar Faculae. *C. U. Keller, M. Schüssler, A. Vögler, & V. Zakharov*. 607, L59 (2004)
- KELLER, S. C. Resolving the Nature of the Large Magellanic Cloud Microlensing Event MACHO-LMC-5. *A. J. Drake, K. H. Cook, & S. C. Keller*. 607, L29 (2004)
- KELLEY, L. A. See ATKINS, R., et al. TeV Gamma-Ray Survey of the Northern Hemisphere Sky Using the Milagro Observatory.
- KELLEY, R. L. See GU, M. F., et al. Laboratory Measurements of $3 \rightarrow 2$ X-Ray Emission Lines of Ne-like Ni XIX.
- KEMPNER, JOSHUA C. A Chandra Study of the Core of the Nearby Cluster A576. *Joshua C. Kempner & Laurence P. David*. 607, 220 (2004)
- XMM-Newton Observation of the Merging Galaxy Cluster A1644. *Thomas H. Reiprich, Craig L. Sarazin, Joshua C. Kempner, & Eric Tittley*. 608, 179 (2004)
- KENNICUTT, ROBERT C., JR. The First Measured Electron Temperatures for Metal-rich H II Regions in M51. *Donald R. Garnett, Robert C. Kennicutt, Jr., & Fabio Bresolin*. 607, L21 (2004)
- The Effect of Metallicity on Cepheid-based Distances. *Shoko Sakai, Laura Ferrarese, Robert C. Kennicutt, Jr., & Abhijit Saha*. 608, 42 (2004)
- KENNY, G. E. See KOSACK, K., et al. TeV Gamma-Ray Observations of the Galactic Center.
- KENT, STEPHEN. See TEGMARK, MAX, et al. The Three-dimensional Power Spectrum of Galaxies from the Sloan Digital Sky Survey.
- KENT, STEPHEN M. See POPE, ADRIAN C., et al. Cosmological Parameters from Eigenmode Analysis of Sloan Digital Sky Survey Galaxy Redshifts.
- KEPLER, S. O. See MUKADAM, ANJUM S., et al. Thirty-Five New Pulsating DA White Dwarf Stars.
- KERTZMAN, M. See KOSACK, K., et al. TeV Gamma-Ray Observations of the Galactic Center.
- KEWLEY, LISA. See NORMAN, COLIN, et al. The X-Ray-derived Cosmological Star Formation History and the Galaxy X-Ray Luminosity Functions in the Chandra Deep Fields North and South.
- KHARCHENKO, V. Chandra Observations of the "Dark" Moon and Geocoronal Solar Wind Charge Transfer. *B. J. Wargelin, M. Markevitch, M. Juda, V. Kharchenko, R. Edgar, & A. Dalgarno*. 607, 596 (2004)
- KIEDA, D. See KOSACK, K., et al. TeV Gamma-Ray Observations of the Galactic Center.
- KIFUNE, T. See TSUCHIYA, K., et al. Detection of Sub-TeV Gamma Rays from the Galactic Center Direction by CANGAROO-II.
- See KAWACHI, A., et al. A Search for TeV Gamma-Ray Emission from the PSR B1259–63/SS 2883 Binary System with the Cangaroo-II 10 m Telescope.
- KIGURE, HIROMITSU. Distribution of Faraday Rotation Measure in Jets from Active Galactic Nuclei. II. Prediction from our Sweeping Magnetic Twist Model for the Wiggled Parts of Active Galactic Nucleus Jets and Tails. *Hiromitsu Kigure, Yutaka Uchida, Masanori Nakamura, Shigenobu Hirose, & Robert Cameron*. 608, 119 (2004)
- KILBOURNE, C. A. See GU, M. F., et al. Laboratory Measurements of $3 \rightarrow 2$ X-Ray Emission Lines of Ne-like Ni XIX.
- KILDEA, J. See SCALZO, R. A., et al. High-Energy Gamma-Ray Observations of W Comae with the Solar Tower Atmospheric Cerenkov Effect Experiment (STACEE).
- See KOSACK, K., et al. TeV Gamma-Ray Observations of the Galactic Center.
- KILKARNI, S. R. A Strong, Broad Absorption Feature in the X-Ray Spectrum of the Nearby Neutron Star RX J1605.3+3249. *M. H. van Kerkwijk, D. L. Kaplan, M. Durant, S. R. Kilkarni, & F. Paerels*. 608, 432 (2004)
- KILMARTIN, P. M. See BOND, I. A., et al. OGLE 2003-BLG-235/MOA 2003-BLG-53: A Planetary Microlensing Event.
- KIM, SUNGSOO S. Dynamical Friction on Galactic Center Star Clusters with an Intermediate-Mass Black Hole. *Sungsoo S. Kim, Donald F. Figer, & Mark Morris*. 607, L123 (2004)
- KIM, YOUNG-RAE. Gravitational Redshifts in Simulated Galaxy Clusters. *Young-Rae Kim & Rupert A. C. Croft*. 607, 164 (2004)
- KINGHAM, KERRY A. Structure of OJ 287 from Geodetic Very Long Baseline Array Data. *Claudio E. Teytama & Kerry A. Kingham*. 608, 149 (2004)

- KIRSHNER, ROBERT P. See RIESS, ADAM G., et al. Type Ia Supernova Discoveries at $z > 1$ from the *Hubble Space Telescope*: Evidence for Past Deceleration and Constraints on Dark Energy Evolution.
- KITAI, REIZABURO. Filament Oscillations and Moreton Waves Associated with EIT Waves. *Takenori J. Okamoto, Hidekazu Nakai, Atsushi Keiyama, Noriyuki Narukage, Satoru Ueno, Reizaburo Kitai, Hiroki Kurokawa, & Kazunari Shibata*. 608, 1124 (2004)
- KLAGES, H. O. See ANTONI, T., et al. Search for Cosmic-Ray Point Sources with KASCADE.
- KLAHR, HUBERT. The Global Baroclinic Instability in Accretion Disks. II. Local Linear Analysis. *Hubert Klahr*. 606, 1070 (2004)
- KLEINHEINRICH, MARTINA. See BELL, ERIC F., et al. Nearly 5000 Distant Early-Type Galaxies in COMBO-17: A Red Sequence and Its Evolution since $z \sim 1$.
- KLEINMAN, S. J. A Helium White Dwarf of Extremely Low Mass. *James Liebert, P. Bergeron, Daniel Eisenstein, H. C. Harris, S. J. Kleinman, Atsuko Nitta, & Jurek Krzesinski*. 606, L147 (2004)
- A Catalog of Spectroscopically Identified White Dwarf Stars in the First Data Release of the Sloan Digital Sky Survey. *S. J. Kleinman, Hugh C. Harris, Daniel J. Eisenstein, James Liebert, Atsuko Nitta, Jurek Krzesinski, Jeffrey A. Munn, Conrad C. Dahn, Suzanne L. Hawley, Jeffrey R. Pier, Gary Schmidt, Nicole M. Silvestri, J. Allyn Smith, Paula Szkody, Michael A. Strauss, G. R. Knapp, Matthew J. Collinge, A. S. Mukadam, D. Koester, Alan Uomoto, D. J. Schlegel, Scott F. Anderson, J. Brinkmann, D. Q. Lamb, Donald P. Schneider, & Donald G. York*. 607, 426 (2004)
- See MUKADAM, ANJUM S., et al. Thirty-Five New Pulsating DA White Dwarf Stars.
- KLYPIN, ANATOLY A. Density Profiles of Λ CDM Clusters. *Argyro Tasitsiomi, Andrey V. Kravtsov, Stefan Gottloeber, & Anatoly A. Klypin*. 607, 125 (2004)
- KNACKE, ROGER. See LYNCH, DAVID K., et al. 0.8–13 Micron Spectroscopy of V838 Monocerotis and a Model for Its Emission.
- KNAPP, G. R. See KLEINMAN, S. J., et al. A Catalog of Spectroscopically Identified White Dwarf Stars in the First Data Release of the Sloan Digital Sky Survey.
- KNAPP, GILLIAN R. See TEGMARK, MAX, et al. The Three-dimensional Power Spectrum of Galaxies from the Sloan Digital Sky Survey.
- KNAPP, J. See KOSACK, K., et al. TeV Gamma-Ray Observations of the Galactic Center.
- KNAUTH, DAVID C. A Hot Envelope around the Southern Coalsack: X-Ray and Far-Ultraviolet Observations. *B-G Andersson, David C. Knauth, S. L. Snowden, R. L. Shelton, & Peter G. Wannier*. 606, 341 (2004)
- KNEIB, JEAN-PAUL. The Abundance of Low-Luminosity Ly α Emitters at High Redshift. *Michael R. Santos, Richard S. Ellis, Jean-Paul Kneib, Johan Richard, & Konrad Kuijken*. 606, 683 (2004)
- A Probable $z \sim 7$ Galaxy Strongly Lensed by the Rich Cluster A2218: Exploring the Dark Ages. *Jean-Paul Kneib, Richard S. Ellis, Michael R. Santos, & Johan Richard*. 607, 697 (2004)
- KO, C. M. Nonlinear Parker Instability with the Effect of Cosmic-Ray Diffusion. *T. Kiwabara, K. Nakamura, & C. M. Ko*. 607, 828 (2004)
- KOCEVSKI, DALE D. The Dipole Anisotropy of the First All-Sky X-Ray Cluster Sample. *Dale D. Kocevski, Christopher R. Mullis, & Harald Ebeling*. 608, 721 (2004)
- KOCHANEK, C. S. The Effects of Massive Substructures on Image Multiplicities in Gravitational Lenses. *J. D. Cohn & C. S. Kochanek*. 608, 25 (2004)
- KOESTER, D. See KLEINMAN, S. J., et al. A Catalog of Spectroscopically Identified White Dwarf Stars in the First Data Release of the Sloan Digital Sky Survey.
- See MUKADAM, ANJUM S., et al. Thirty-Five New Pulsating DA White Dwarf Stars.
- KOGO, NORIYUKI. Reconstructing the Primordial Spectrum from WMAP Data by the Cosmic Inversion Method. *Noriyuki Kogo, Makoto Matsumiya, Misao Sasaki, & Jun'ichi Yokoyama*. 607, 32 (2004)
- KOGUT, A. See NOLTA, M. R., et al. First Year Wilkinson Microwave Anisotropy Probe Observations: Dark Energy Induced Correlation with Radio Sources.
- KOIDE, SHINJI. General Relativistic Magnetohydrodynamic Simulations of Collapsars. *Yosuke Mizuno, Shoichi Yamada, Shinji Koide, & Kazunari Shibata*. 606, 395 (2004)
- Relativistic Outflow Magnetically Driven by Black Hole Rotation. *Shinji Koide*. 606, L45 (2004)
- KOLBE, E. Neutrino Effects before, during, and after the Freezeout of the r -Process. *M. Terasawa, K. Langanke, T. Kajino, G. J. Mathews, & E. Kolbe*. 608, 470 (2004)
- KOMM, R. W. Activity-Related Changes in Local Solar Acoustic Mode Parameters from the Michelson Doppler Imager and Global Oscillations Network Group. *R. Howe, R. W. Komm, F. Hill, D. A. Haber, & B. W. Hindman*. 608, 562 (2004)
- KONDRATKO, PAUL T. Using VLBI to Probe the Orion KL Outflow on AU Scales. *Sheperd S. Doeleman, Colin J. Lonsdale, Paul T. Kondratko, & C. Read Predmore*. 607, 361 (2004)
- KORISTA, KIRK T. What the Optical Recombination Lines Can Tell Us about the Broad-Line Regions of Active Galactic Nuclei. *Kirk T. Korista & Michael R. Goad*. 606, 749 (2004)
- KOSACK, K. TeV Gamma-Ray Observations of the Galactic Center. *K. Kosack, H. M. Badran, I. H. Bond, P. J. Boyle, S. M. Bradbury, J. H. Buckley, D. A. Carter-Lewis, O. Celik, V. Connaughton, W. Cui, M. Daniel, M. D'Vali, I. de la Calle Perez, C. Duke, A. Falcone, D. J. Fegan, S. J. Fegan, J. P. Finley, L. F. Fortson, J. A. Gaidos, S. Gammell, K. Gibbs, G. H. Gillanders, J. Grube, K. Gutierrez, J. Hall, T. A. Hall, D. Hanna, A. M. Hillas, J. Holder, D. Horan, A. Jarvis, M. Jordon, G. E. Kenny, M. Kertzman, D. Kieda, J. Kildea, J. Knapp, H. Krawczynski, F. Krennrich, M. J. Lang, S. Le Bohec, E. Linton, J. Lloyd-Evans, A. Milovanovic, J. McEnery, P. Moriarty, D. Muller, T. Nagai, S. Nolan, R. A. Ong, R. Pallascini, D. Petry, B. Power-Mooney, J. Quinn, M. Quinn, K. Ragan, P. Rebillot, P. T. Reynolds, H. J. Rose, M. Schroedter, G. H. Sembronski, S. P. Swordy, A. Syson, V. V. Vassiliiev, S. P. Wakely, G. Walker, T. C. Weekes, & J. Zweerink*. 608, L97 (2004)
- KOSOVICHEV, A. G. Three-dimensional Inversion of Time-Distance Helioseismology Data: Ray-Path and Fresnel-Zone Approximations. *S. Couvidat, A. C. Birch, A. G. Kosovichev, & J. Zhao*. 607, 554 (2004)
- Sensitivity of Acoustic Wave Travel Times to Sound-Speed Perturbations in the Solar Interior. *A. C. Birch, A. G. Kosovichev, & T. L. Duvall, Jr.* 608, 580 (2004)
- See TURCK-CHIEZE, S., et al. Erratum: Looking for Gravity-Mode Multiplets with the GOLF Experiment aboard SOHO (ApJ, 604, 455 (2004)).
- KOSOVICHEV, ALEXANDER G. On the Relationship between the Rotational Velocity and the Field Strength of Solar Magnetic Elements. *Junwei Zhao, Alexander G. Kosovichev, & Thomas L. Duvall, Jr.* 607, L135 (2004)
- KOTAKE, KEI. Magnetorotational Effects on Anisotropic Neutrino Emission and Convection in Core-Collapse Supernovae. *Kei Kotake, Hidetomo Sawai, Shoichi Yamada, & Katsuhiko Sato*. 608, 391 (2004)
- KOTHES, R. H. I Absorption of Polarized Emission: A New Technique for Determining Kinematic Distances to Galactic Supernova Remnants. *R. Kothes, T. L. Landecker, & M. Wolleben*. 607, 855 (2004)
- KOUVELIOTOU, C. Chandra Observations of the X-Ray Environs of SN 1998bw/GRB 980425. *C. Kouveliotou, S. E. Woosley, S. K. Patel, A. Leván, R. Blandford, E. Ramirez-Ruiz, R. A. M. J. Wijers, M. C. Weisskopf, A. Tennant, E. Pian, & P. Giommi*. 608, 872 (2004)
- KOWALSKI, P. M. Radiative Transfer in the Refractive Atmospheres of Very Cool White Dwarfs. *P. M. Kowalski & D. Saumon*. 607, 970 (2004)
- KRAEMER, S. B. On the Relationship between the Optical Emission-Line and X-Ray Luminosities in Seyfert 1 Galaxies. *S. B. Kraemer, I. M. George, D. M. Crenshaw, & J. R. Gabel*. 607, 794 (2004)
- KRAUSS, OLIVER. On the Importance of Gas Flow through Porous Bodies for the Formation of Planetesimals. *Gerhard Wurm, Georgi Paraskov, & Oliver Krauss*. 606, 983 (2004)
- KRAVTSOV, ANDREY V. Density Profiles of Λ CDM Clusters. *Argyro Tasitsiomi, Andrey V. Kravtsov, Stefan Gottloeber, & Anatoly A. Klypin*. 607, 125 (2004)
- KRAWCZYNSKI, H. See KOSACK, K., et al. TeV Gamma-Ray Observations of the Galactic Center.
- KRENNRICH, F. See KOSACK, K., et al. TeV Gamma-Ray Observations of the Galactic Center.
- KRIMIGIS, S. M. Abundances of Heavy and Ultraheavy Ions in ^3He -rich Solar Flares. *G. M. Mason, J. E. Mazur, J. R. Dwyer, J. R. Jokipii, R. E. Gold, & S. M. Krimigis*. 606, 555 (2004)
- KRISHNAN, BADRI. Swift Pointing and the Association between Gamma-Ray Bursts and Gravitational Wave Bursts. *Lee Samuel Finn, Badri Krishnan, & Patrick J. Sutton*. 607, 384 (2004)
- KROLIK, JULIAN H. Magnetically Driven Accretion Flows in the Kerr Metric. II. Structure of the Magnetic Field. *Shigenobu Hirose, Julian H. Krolik, Jean-Pierre De Villiers, & John F. Hawley*. 606, 1083 (2004)

- KRSTIĆ, PREDRAG S. Rate Coefficient for $H^+ + H_2(X^1\Sigma_g^+, \nu = 0, J = 0) \rightarrow H(1s) + H_2^+$ Charge Transfer and Some Cosmological Implications. *Daniel Wolf Savin, Predrag S. Krstić, Zoltán Haiman, & Phillip C. Stancil*. 606, L167 (2004)
- Erratum: Rate Coefficient for $H^+ + H_2(X^1\Sigma_g^+, \nu = 0, J = 0) \rightarrow H(1s) + H_2^+$ Charge Transfer and Some Cosmological Implications (ApJ, 606, L167 [2004]). *Daniel Wolf Savin, Predrag S. Krstić, Zoltán Haiman, & Phillip C. Stancil*. 607, L147 (2004) (Orig. paper in 606, L167 (2004))
- KRZESINSKI, JUREK. A Helium White Dwarf of Extremely Low Mass. *James Liebert, P. Bergeron, Daniel Eisenstein, H. C. Harris, S. J. Kleinman, Atsuko Nitta, & Jurek Krzesinski*. 606, L147 (2004)
- See KLEINMAN, S. J., et al. A Catalog of Spectroscopically Identified White Dwarf Stars in the First Data Release of the Sloan Digital Sky Survey.
- See MUKADAM, ANJUM S., et al. Thirty-Five New Pulsating DA White Dwarf Stars.
- KSENOFONTOV, L. See KAWACHI, A., et al. A Search for TeV Gamma-Ray Emission from the PSR B1259–63/SS 2883 Binary System with the Cangaroo-II 10 m Telescope.
- KSENOFONTOV, L. T. See TSUCHIYA, K., et al. Detection of Sub-TeV Gamma Rays from the Galactic Center Direction by CANGAROO-II.
- KUBIAK, M. See BOND, I. A., et al. OGLE 2003-BLG-235/MOA 2003-BLG-53: A Planetary Microlensing Event.
- KUBO, H. See TSUCHIYA, K., et al. Detection of Sub-TeV Gamma Rays from the Galactic Center Direction by CANGAROO-II.
- See KAWACHI, A., et al. A Search for TeV Gamma-Ray Emission from the PSR B1259–63/SS 2883 Binary System with the Cangaroo-II 10 m Telescope.
- KUCHNER, MARC J. Using Notch-Filter Masks for High-Contrast Imaging of Extrasolar Planets. *John H. Debes, Jian Ge, Marc J. Kushner, & Michael Rogosky*. 608, 1095 (2004)
- KUDRITZKI, ROLF P. The Physical Properties and Effective Temperature Scale of O-Type Stars as a Function of Metallicity. I. A Sample of 20 Stars in the Magellanic Clouds. *Philip Massey, Fabio Bresolin, Rolf P. Kudritzki, Joachim Puls, & A. W. A. Pauldrach*. 608, 1001 (2004)
- KUHLEN, M. Carbon Ignition in Type Ia Supernovae: An Analytic Model. *S. E. Woosley, S. Wunsch, & M. Kuhlen*. 607, 921 (2004)
- KUIJEN, KONRAD. The Abundance of Low-Luminosity Ly α Emitters at High Redshift. *Michael R. Santos, Richard S. Ellis, Jean-Paul Kneib, Johan Richard, & Konrad Kuijen*. 606, 683 (2004)
- KULESA, CRAIG. Interstellar H_2^+ Line Absorption toward LkH α 101. *Sean D. Brittain, Theodore Simon, Craig Kulesa, & Terrence W. Rettig*. 606, 911 (2004)
- KULKARNI, S. R. See LIPKIN, Y. M., et al. The Detailed Optical Light Curve of GRB 030329.
- See SODERBERG, A. M., et al. A Redshift Determination for XRF 020903: First Spectroscopic Observations of an X-Ray Flash.
- KUNDU, ARUNAV. An Explanation for Metallicity Effects on X-Ray Binary Properties. *Thomas J. Maccarone, Arunav Kundu, & Stephen E. Zepf*. 606, 430 (2004)
- KUNDU, M. R. Radio Observations of Rapid Acceleration in a Slow Filament Eruption/Fast Coronal Mass Ejection Event. *M. R. Kundu, S. M. White, V. I. Garaimov, P. K. Manoharan, P. Subramanian, S. Ananthakrishnan, & P. Jamardhan*. 607, 530 (2004)
- KUNSZT, PETER. See TEGMARK, MAX, et al. The Three-dimensional Power Spectrum of Galaxies from the Sloan Digital Sky Survey.
- KUNTH, DANIEL. Extended Tidal Structure in Two Ly α -Emitting Starburst Galaxies. *John M. Cannon, Evan D. Skillman, Daniel Kunth, Claus Leitherer, Miguel Mas-Hesse, Göran Östlin, & Artashes Petrosian*. 608, 768 (2004)
- KUNZ, MARTIN. Cosmic Acceleration versus Axion-Photon Mixing. *Bruce A. Bassett & Martin Kunz*. 607, 661 (2004)
- KURATA, Y. See BOND, I. A., et al. OGLE 2003-BLG-235/MOA 2003-BLG-53: A Planetary Microlensing Event.
- KURIHARA, T. See TSUCHIYA, K., et al. Detection of Sub-TeV Gamma Rays from the Galactic Center Direction by CANGAROO-II.
- KUROKAWA, HIROKI. Filament Oscillations and Moreton Waves Associated with EIT Waves. *Takenori J. Okamoto, Hidekazu Nakai, Atsushi Keiyama, Noriyuki Narukage, Satoru Ueno, Reizaburo Kitai, Hiroki Kurokawa, & Kazunari Shibata*. 608, 1124 (2004)
- KUROSAKA, R. See TSUCHIYA, K., et al. Detection of Sub-TeV Gamma Rays from the Galactic Center Direction by CANGAROO-II.
- KURTZ, STANLEY E. The Effects of Dust on Compact and Ultracompact H II Regions. *S. Jane Arthur, Stanley E. Kurtz, José Franco, & Marna Y. Albarrán*. 608, 282 (2004)
- KUSHIDA, J. See TSUCHIYA, K., et al. Detection of Sub-TeV Gamma Rays from the Galactic Center Direction by CANGAROO-II.
- See KAWACHI, A., et al. A Search for TeV Gamma-Ray Emission from the PSR B1259–63/SS 2883 Binary System with the Cangaroo-II 10 m Telescope.
- KUWABARA, T. Nonlinear Parker Instability with the Effect of Cosmic-Ray Diffusion. *T. Kuwabara, K. Nakamura, & C. M. Ko*. 607, 828 (2004)
- LACY, MARK. FIRST-2MASS Sources below the APM Detection Threshold: A Population of Highly Reddened Quasars. *Eilat Glikman, Michael D. Gregg, Mark Lacy, David J. Helfand, Robert H. Becker, & Richard L. White*. 607, 60 (2004)
- LAI, DONG. Spectral Features in the Thermal Emission from Isolated Neutron Stars: Dependence on Magnetic Field Strengths. *Wynn C. G. Ho & Dong Lai*. 607, 420 (2004)
- LAKE, G. See GOVERNATO, F., et al. The Formation of a Realistic Disk Galaxy in Λ -dominated Cosmologies.
- LAMB, D. Q. See KLEINMAN, S. J., et al. A Catalog of Spectroscopically Identified White Dwarf Stars in the First Data Release of the Sloan Digital Sky Survey.
- LAMB, DON Q. See TEGMARK, MAX, et al. The Three-dimensional Power Spectrum of Galaxies from the Sloan Digital Sky Survey.
- See ZEHAVI, IDIT, et al. On Departures from a Power Law in the Galaxy Correlation Function.
- LAMBERT, DAVID L. Boron Benchmarks for the Galactic Disk. *Ann Merchant Boesgaard, Elizabeth J. McGrath, David L. Lambert, & Katia Cunha*. 606, 306 (2004)
- LAMY, H. A Transonic Collisionless Model of the Solar Wind. *I. Zouganelis, M. Maksimovic, N. Meyer-Vernet, H. Lamy, & K. Issautier*. 606, 542 (2004)
- LANDECKER, T. L. H I Absorption of Polarized Emission: A New Technique for Determining Kinematic Distances to Galactic Supernova Remnants. *R. Kothes, T. L. Landecker, & M. Wolleben*. 607, 855 (2004)
- LANDI, E. Atomic Data and Spectral Line Intensities for Ca VIII. *E. Landi, P. J. Storey, & C. J. Zeppen*. 607, 640 (2004)
- Newly Identified Forbidden Transitions within the Ground Configuration of Ions of Very Low Abundance P, Cl, K, and Co. *U. Feldman, E. Landi, & W. Curdt*. 607, 1039 (2004)
- Models for Solar Magnetic Loops. III. Dynamic Models and Coronal Diagnostic Spectrometer Observations. *E. Landi & M. Landini*. 608, 1133 (2004)
- LANDINI, M. Models for Solar Magnetic Loops. III. Dynamic Models and Coronal Diagnostic Spectrometer Observations. *E. Landi & M. Landini*. 608, 1133 (2004)
- LANG, M. J. See KOSACK, K., et al. TeV Gamma-Ray Observations of the Galactic Center.
- LANGANKE, K. Neutrino Effects before, during, and after the Freezeout of the r -Process. *M. Terasawa, K. Langanke, T. Kajino, G. J. Mathews, & E. Kolbe*. 608, 470 (2004)
- LANGE, ANDREW E. First Star Signature in Infrared Background Anisotropies. *Asantha Cooray, James J. Bock, Brian Keating, Andrew E. Lange, & T. Matsumoto*. 606, 611 (2004)
- LANSDELL, C. P. See ATKINS, R., et al. TeV Gamma-Ray Survey of the Northern Hemisphere Sky Using the Milagro Observatory.
- LANZ, THIERRY. First Evidence of Circumstellar Disks around Blue Straggler Stars. *Orsola De Marco, Thierry Lanz, John A. Ouellette, David Zurek, & Michael M. Shara*. 606, L151 (2004)
- LAROSA, T. N. New Nonthermal Filaments at the Galactic Center: Are They Tracing a Globally Ordered Magnetic Field? *T. N. LaRosa, Michael E. Nord, T. Joseph, W. Lazio, & Namir E. Kassim*. 607, 302 (2004)
- LARSON, RICHARD B. The Role of Gas in the Merging of Massive Black Holes in Galactic Nuclei. I. Black Hole Merging in a Spherical Gas Cloud. *Andrés Escala, Richard B. Larson, Paolo S. Coppi, & Diego Mardones*. 607, 765 (2004)
- LARSON, SHANE L. Constraining the Properties of Supermassive Black Hole Systems Using Pulsar Timing: Application to 3C 66B. *Fredrick A. Jenet, Andrea Lommen, Shane L. Larson, & Lingling Wen*. 606, 799 (2004)
- LASENBY, A. N. The Quest for Microwave Foreground X. *Angélica de Oliveira-Costa, Max Tegmark, R. D. Davies, Carlos M. Gutiérrez, A. N. Lasenby, R. Rebolo, & R. A. Watson*. 606, L89 (2004)

- LATTANZI, M. G. A General Relativistic Model of Light Propagation in the Gravitational Field of the Solar System: The Static Case. *F. de Felice, M. T. Crosta, A. Vecchiato, M. G. Lattanzi, & B. Bucciarelli.* 607, 580 (2004)
- LAUER, TOD R. E+A Galaxies and the Formation of Early Type Galaxies at $z \sim 0$. *Yujin Yang, Ann I. Zabludoff, Dennis Zaritsky, Tod R. Lauer, & J. Christopher Mihos.* 607, 258 (2004)
- LAUGHLIN, GREGORY. Type I Planetary Migration with Magnetohydrodynamic Turbulence. *Gregory Laughlin, Adriane Steinacker, & Fred C. Adams.* 608, 489 (2004)
- LAURIKAINEN, EIIJA. Comparison of Bar Strengths and Fractions of Bars in Active and Nonactive Galaxies. *Eija Laurikainen, Heikki Salo, & Ronald Buta.* 607, 103 (2004)
- LAZIO, W. New Nonthermal Filaments at the Galactic Center: Are They Tracing a Globally Ordered Magnetic Field? *T. N. LaRosa, Michael E. Nord, T. Joseph, W. Lazio, & Namir E. Kassim.* 607, 302 (2004)
- LAZZATI, D. The Rates of Hypernovae and Gamma-Ray Bursts: Implications for Their Progenitors. *Ph. Podsiadlowski, P. A. Mazzali, K. Nomoto, D. Lazzati, & E. Cappellaro.* 607, L17 (2004)
- LE BOHEC, S. See KOSACK, K., et al. TeV Gamma-Ray Observations of the Galactic Center.
- LEBRUN, F. See BIRD, A. J., et al. The First IBIS/ISGRI Soft Gamma-Ray Galactic Plane Survey Catalog.
- LEE, BRIAN C. See TEGMARK, MAX, et al. The Three-dimensional Power Spectrum of Galaxies from the Sloan Digital Sky Survey.
- LEE, CHIN-FEI. Magnetohydrodynamic Models of the Bipolar Knotty Jet in Henize 2-90. *Chin-Fei Lee & Raghendra Sahai.* 606, 483 (2004)
- LEE, DONG-WOOK. Constraints on Scalar-Field Dark Energy from the Cosmic Lens All-Sky Survey Gravitational Lens Statistics. *Kyu-Hyun Chae, Gang Chen, Bharat Ratra, & Dong-Wook Lee.* 607, L71 (2004)
- LEE, JOUNGHUN. Erratum: Are Statistics in Triaxial Dark Matter Halos: Testing the Collisionless Cold Dark Matter Paradigm (ApJ, 599, 7 [2003]). *Masamune Oguri, Joungun Lee, & Yasushi Suto.* 608, 1175 (2004) (Orig. paper in 599, 7 (2003))
- LEE, K. J. The Inner Annular Gap for Pulsar Radiation: γ -Ray and Radio Emission. *G. J. Qiao, K. J. Lee, H. G. Wang, R. X. Xu, & J. L. Han.* 606, L49 (2004)
- LEE, WILLIAM H. Opaque or Transparent? A Link between Neutrino Optical Depths and the Characteristic Duration of Short Gamma-Ray Bursts. *William H. Lee, Enrico Ramirez-Ruiz, & Dany Page.* 608, L5 (2004)
- LEFLOCH, B. Detection of H_2D^+ : Measuring the Midplane Degree of Ionization in the Disks of DM Tauri and TW Hydrae. *C. Ceccarelli, C. Dominik, B. Lefloch, P. Caselli, & E. Caux.* 607, L51 (2004)
- LEFLOCH, BERTRAND. Chandra Observation of the Trifid Nebula: X-Ray Emission from the O Star Complex and Actively Forming Pre-Main-Sequence Stars. *Jeonghee Rho, Solange V. Ramirez, Michael F. Corcoran, Kenji Hamaguchi, & Bertrand Lefloch.* 607, 904 (2004)
- LEHMANN, INGO. A Transition to a Low/Soft State in the Ultraluminous Compact X-Ray Source Holmberg II X-1. *Gulab C. Dewangan, Takamitsu Miyaji, Richard E. Griffiths, & Ingo Lehmann.* 608, L57 (2004)
- LEHNERT, M. D. The Faint Counterparts of Max-Planck-Millimeter-Bolometer (MAMBO) Millimeter Sources near the New Technology Telescope Deep Field. *H. Dannerbauer, M. D. Lehnert, D. Lutz, L. Tacconi, F. Bertoldi, C. Carilli, R. Genzel, & K. M. Menten.* 606, 664 (2004)
- LEIBOWITZ, E. M. See LIPKIN, Y. M., et al. The Detailed Optical Light Curve of GRB 030329.
- LEIBUNDGUT, BRUNO. See RIESS, ADAM G., et al. Type Ia Supernova Discoveries at $z > 1$ from the Hubble Space Telescope: Evidence for Past Deceleration and Constraints on Dark Energy Evolution.
- LEITHERER, CLAUS. Extended Tidal Structure in Two Ly α -Emitting Starburst Galaxies. *John M. Cannon, Evan D. Skillman, Daniel Kunth, Claus Leitherer, Miguel Mas-Hesse, Göran Östlin, & Artashes Petrosian.* 608, 768 (2004)
- LENNON, D. J. Terminal Velocities of Luminous, Early-Type Small Magellanic Cloud Stars. *C. J. Evans, D. J. Lennon, C. Trundle, S. R. Heap, & D. J. Lindler.* 607, 451 (2004)
- LENNON, DANIEL J. A CNO Dichotomy among O2 Giant Spectra in the Magellanic Clouds. *Nolan R. Walborn, Nidia I. Morrell, Ian D. Howarth, Paul A. Crowther, Daniel J. Lennon, Philip Massey, & Julia I. Arias.* 608, 1028 (2004)
- LEONG, BERNARD. Gravitational Binding, Virialization, and the Peculiar Velocity Distribution of the Galaxies. *Bernard Leong & William C. Saslaw.* 608, 636 (2004)
- LEPRETI, FABIO. Particle Acceleration in an Evolving Network of Unstable Current Sheets. *Loukas Vlahos, Heinz Isliker, & Fabio Lepreti.* 608, 540 (2004)
- LEUNG, P. Gamma-Ray Emission Properties from Mature Pulsars in the Galaxy and in the Gould Belt. *K. S. Cheng, L. Zhang, P. Leung, & Z. J. Jiang.* 608, 418 (2004)
- LEVAN, A. See KOUVELIOTOU, C., et al. Chandra Observations of the X-Ray Environs of SN 1998bw/GRB 980425.
- LEVINSON, AMIR. On Time Evolution and Causality of Force-Free Black Hole Magnetospheres. *Amir Levinson.* 608, 411 (2004)
- LEWIN, W. H. G. See MILLER, J. M., et al. Evidence of Black Hole Spin in GX 339-4: XMM-Newton/EPIC-pn and RXTE Spectroscopy of the Very High State.
- LEWIN, WALTER H. G. Monitoring Chandra Observations of the Quasi-persistent Neutron Star X-Ray Transient MXB 1659-29 in Quiescence: The Cooling Curve of the Heated Neutron Star Crust. *Rudy Wijmands, Jeroen Homan, Jon M. Miller, & Walter H. G. Lewin.* 606, L61 (2004)
- LEWIS, G. F. Further Multiwavelength Observations of the SSA 22 Ly α -emitting "Blob." *S. C. Chapman, D. Scott, R. A. Windhorst, D. T. Frayer, C. Borys, G. F. Lewis, & R. J. Ivison.* 606, 85 (2004)
- LI, J. P. Multiwavelength Analysis of an X1.6 Flare of 2001 October 19. *J. P. Li & M. D. Ding.* 606, 583 (2004)
- LI, T. P. Diagnostics of Neutron Star and Black Hole X-Ray Binaries with X-Ray Shot Widths. *Hua Feng, T. P. Li, & S. N. Zhang.* 606, 424 (2004)
- LI, TI-PEI. X-Ray Triple Rings around the M87 Jets in the Central Virgo Cluster. *Hua Feng, Shuang-Nan Zhang, Yu-Qing Lou, & Ti-Pei Li.* 607, L95 (2004)
- LI, WEIDONG. See BRANCH, DAVID, et al. Direct Analysis of Spectra of the Peculiar Type Ia Supernova 2000ex.
- See RIESS, ADAM G., et al. Type Ia Supernova Discoveries at $z > 1$ from the Hubble Space Telescope: Evidence for Past Deceleration and Constraints on Dark Energy Evolution.
- LI, ZHI-YUN. The Diversity of Gamma-Ray Burst Afterglows and the Surroundings of Massive Stars. *Roger A. Chevalier, Zhi-Yun Li, & Claes Fransson.* 606, 369 (2004)
- LI, ZHUO. Prompt Ultraviolet-to-Soft X-Ray Emission of Gamma-Ray Bursts: Application to GRB 031203? *Zhuo Li & L. M. Song.* 608, L17 (2004)
- LIANG, E. W. The Luminosity- E_p Relation within Gamma-Ray Bursts and the Implications for Fireball Models. *E. W. Liang, Z. G. Dai, & X. F. Wu.* 606, L29 (2004)
- The Peak Energy Distribution of the νF_ν Spectra and the Implications for the Jet Structure Models of Gamma-Ray Bursts. *E. W. Liang & Z. G. Dai.* 608, L9 (2004)
- LIEBERT, JAMES. A Helium White Dwarf of Extremely Low Mass. *James Liebert, P. Bergeron, Daniel Eisenstein, H. C. Harris, S. J. Kleinman, Atsuko Nitta, & Jurek Krzesinski.* 606, L147 (2004)
- See KLEINMAN, S. J., et al. A Catalog of Spectroscopically Identified White Dwarf Stars in the First Data Release of the Sloan Digital Sky Survey.
- LIEDAHL, DUANE A. Reprocessing of Soft X-Ray Emission Lines in Black Hole Accretion Disks. *Christopher W. Mauche, Duane A. Liedahl, Benjamin F. Mathiesen, Mario A. Jimenez-Garate, & John C. Raymond.* 606, 168 (2004)
- Erratum: Resolving the Effects of Resonant X-Ray Line Scattering in Centaurus X-3 with Chandra (ApJ, 582, 959 [2003]). *Patrick S. Wojdowski, Duane A. Liedahl, Masao Sako, Steven M. Kahn, & Frederik Paerels.* 607, 1071 (2004) (Orig. paper in 582, 959 (2003))
- LIMON, M. See NOLTA, M. R., et al. First Year Wilkinson Microwave Anisotropy Probe Observations: Dark Energy Induced Correlation with Radio Sources.
- LIMONGI, MARCO. Explosive Yields of Massive Stars from $Z = 0$ to $Z = Z_\odot$. *Alessandro Chieffi & Marco Limongi.* 608, 405 (2004)
- LIN, D. N. C. On the Evolution and Stability of a Protoplanetary Disk Dust Layer. *P. Garaud & D. N. C. Lin.* 608, 1050 (2004)
- LIN, DOUGLAS N. C. The Internal Structural Adjustment due to Tidal Heating of Short-Period Inflated Giant Planets. *Pin-Gao Gu, Peter H. Bodenheimer, & Douglas N. C. Lin.* 608, 1076 (2004)
- LIN, HUAN. See TEGMARK, MAX, et al. The Three-dimensional Power Spectrum of Galaxies from the Sloan Digital Sky Survey.
- LIN, KAI-YANG. Effects of Preheated Clusters on the Cosmic Microwave Background Spectrum. *Kai-Yang Lin, Tak-Pong Woo, Yao-Huan Tseng, Lihwai Lin, & Tzihong Chiueh.* 608, L1 (2004)

- LIN, LI WEI. Doppler Shifts and Broadening and the Structure of the X-Ray Emission from Algol. *Sun Mi Chung, Jeremy J. Drake, Vinay L. Kashyap, Li Wei Lin, & Peter W. Ritzlaff*. 606, 1184 (2004)
- LIN, LIHWAI. Effects of Preheated Clusters on the Cosmic Microwave Background Spectrum. *Kai-Yang Lin, Tak-Pong Woo, Yao-Huan Tseng, Lihwai Lin, & Tzihong Chiueh*. 608, L1 (2004)
- LINDLER, D. J. Terminal Velocities of Luminous, Early-Type Small Magellanic Cloud Stars. *C. J. Evans, D. J. Lennon, C. Trundle, S. R. Heap, & D. J. Lindler*. 607, 451 (2004)
- LINDNER, T. See SCALZO, R. A., et al. High-Energy Gamma-Ray Observations of W Comae with the Solar Tower Atmospheric Cerenkov Effect Experiment (STACEE).
- LINDEMANN, J. T. See ATKINS, R., et al. TeV Gamma-Ray Survey of the Northern Hemisphere Sky Using the Milagro Observatory.
- LINSKY, JEFFREY L. The Far-Ultraviolet Spectra of TW Hydrae. II. Models of H₂ Fluorescence in a Disk. *Gregory J. Herczeg, Brian E. Wood, Jeffrey L. Linsky, Jeff A. Valenti, & Christopher M. Johns-Krull*. 607, 369 (2004)
- LINTON, E. See KOSACK, K., et al. TeV Gamma-Ray Observations of the Galactic Center.
- LINZ, H. See GRADY, C. A., et al. The Environment of the Optically Brightest Herbig Ae Star, HD 104237.
- LIPKIN, Y. M. The Detailed Optical Light Curve of GRB 030329. *Y. M. Lipkin, E. O. Ofek, A. Gal-Yam, E. M. Leibowitz, D. Poznanski, S. Kaspi, D. Polishook, S. R. Kulkarni, D. W. Fox, E. Berger, N. Mirabal, J. Halpern, M. Bureau, K. Fathi, P. A. Price, B. A. Peterson, A. Frebel, B. Schmidt, J. A. Orosz, J. B. Fitzgerald, J. S. Bloom, P. G. van Dokkum, C. D. Bailyn, M. M. Buxton, & M. Barsony*. 606, 381 (2004)
- LISENFELD, UTE. The Suprwind Galaxy NGC 4666: Gravitational Interactions and the Influence of the Resulting Starburst on the Interstellar Medium. *Fabian Walter, Michael Dahlem, & Ute Lisensfeld*. 606, 258 (2004)
- LISLE, JASON P. The Spectrum of the Solar Supergranulation: Multiple Nonwave Components. *Mark P. Rast, Jason P. Lisle, & Juri Toomre*. 608, 1156 (2004)
- Persistent North-South Alignment of the Solar Supergranulation. *Jason P. Lisle, Mark P. Rast, & Juri Toomre*. 608, 1167 (2004)
- LIU, CHANG. Near-Infrared Observations at 1.56 Microns of the 2003 October 29 X10 White-Light Flare. *Yan Xu, Wenda Cao, Chang Liu, Guo Yang, Jiong Qiu, Ju Jing, Carsten Denker, & Haimin Wang*. 607, L131 (2004)
- LIU, MICHAEL C. A Submillimeter Search of Nearby Young Stars for Cold Dust: Discovery of Debris Disks around Two Low-Mass Stars. *Michael C. Liu, Brenda C. Matthews, Jonathan P. Williams, & Paul G. Kalas*. 608, 526 (2004)
- LIU, S.-Y. High-Resolution Observations of Methyl Cyanide (CH₃CN) toward the Hot Core Regions W51 e1/e2. *A. Remijan, E. C. Sutton, L. E. Snyder, D. N. Friedel, S.-Y. Liu, & C.-C. Pei*. 606, 917 (2004)
- LIVIO, MARIO. Orbital Capture of Stars by a Massive Black Hole via Exchanges with Compact Remnants. *Tal Alexander & Mario Livio*. 606, L21 (2004)
- See RIESS, ADAM G., et al. Type Ia Supernova Discoveries at $z > 1$ from the Hubble Space Telescope: Evidence for Past Deceleration and Constraints on Dark Energy Evolution.
- LOYD-EVANS, J. See KOSACK, K., et al. TeV Gamma-Ray Observations of the Galactic Center.
- LOKEN, CHRIS. Formation of Cool Cores in Galaxy Clusters via Hierarchical Mergers. *Patrick M. Motl, Jack O. Burns, Chris Loken, Michael L. Norman, & Greg Bryan*. 606, 635 (2004)
- LOMMEN, ANDREA. Constraining the Properties of Supermassive Black Hole Systems Using Pulsar Timing: Application to 3C 66B. *Fredrick A. Jenet, Andrea Lommen, Shane L. Larson, & Lingling Wen*. 606, 799 (2004)
- LONGCOPE, D. W. A Comparison of the Minimum Current Corona to a Magnetohydrodynamic Simulation of Quasi-Static Coronal Evolution. *D. W. Longcope & T. Magara*. 608, 1106 (2004)
- LONSDALE, COLIN J. Using VLBI to Probe the Orion KL Outflow on AU Scales. *Sheperd S. Doeleman, Colin J. Lonsdale, Paul T. Kondratko, & C. Read Predmore*. 607, 361 (2004)
- LOPES, I. See TURCK-CHIEZE, S., et al. Erratum: Looking for Gravity-Mode Multiplets with the GOLF Experiment aboard SOHO (ApJ, 604, 455 [2004]).
- LOU, YU-QING. Magnetic Sunyaev-Zel'dovich Effect in Galaxy Clusters. *Jian Hu & Yu-Qing Lou*. 606, L1 (2004)
- X-Ray Triple Rings around the M87 Jets in the Central Virgo Cluster. *Hua Feng, Shuang-Nan Zhang, Yu-Qing Lou, & Ti-Pei Li*. 607, L95 (2004)
- LOVEDAY, JON. See TEGMARK, MAX, et al. The Three-dimensional Power Spectrum of Galaxies from the Sloan Digital Sky Survey.
- See ZEHAVI, IDIT, et al. On Departures from a Power Law in the Galaxy Correlation Function.
- LOW, B. C. Magnetic-Field Confinement in the Solar Corona. I. Force-free Magnetic Fields. *N. Flyer, B. Fornberg, S. Thomas, & B. C. Low*. 606, 1210 (2004)
- LUBIN, L. M. Spectroscopic Confirmation of the Cl 1604 Supercluster at $z \sim 0.9$. *R. R. Gal & L. M. Lubin*. 601, L1 (2004)
- LUPTON, ROBERT H. See TEGMARK, MAX, et al. The Three-dimensional Power Spectrum of Galaxies from the Sloan Digital Sky Survey.
- See POPE, ADRIAN C., et al. Cosmological Parameters from Eigenmode Analysis of Sloan Digital Sky Survey Galaxy Redshifts.
- See ZEHAVI, IDIT, et al. On Departures from a Power Law in the Galaxy Correlation Function.
- LUTZ, D. The Faint Counterparts of Max-Planck-Millimeter-Bolometer (MAMBO) Millimeter Sources near the New Technology Telescope Deep Field. *H. Dannerbauer, M. D. Lehnert, D. Lutz, L. Tacconi, F. Bertoldi, C. Carilli, R. Genzel, & K. M. Menten*. 606, 664 (2004)
- LYNCH, DAVID K. 0.8–13 Micron Spectroscopy of V838 Monocerotis and a Model for Its Emission. *David K. Lynch, Richard J. Rudy, Ray W. Russell, S. Mazuk, Catherine C. Venturini, W. Dimpfl, Lawrence S. Bernstein, Michael L. Sitko, Sergio Fajardo-Acosta, Alan Tokunaga, Roger Knacke, Richard C. Puetter, & R. Brad Perry*. 607, 460 (2004)
- MACARTHUR, LAUREN A. The Identification of Blue Horizontal-Branch Stars in the Integrated Spectra of Globular Clusters. *Ricardo P. Schiavon, James A. Rose, Stéphane Courteau, & Lauren A. MacArthur*. 608, L33 (2004)
- MACCARONE, THOMAS J. An Explanation for Metallicity Effects on X-Ray Binary Properties. *Thomas J. Maccarone, Arunav Kundu, & Stephen E. Zepf*. 606, 430 (2004)
- MACGREGOR, KEITH B. Models for the Rapidly Rotating Be Star Achernar. *Stephen Jackson, Keith B. MacGregor, & Andrew Skumanich*. 606, 1196 (2004)
- MACINTOSH, B. A. A Multiwavelength Scattered Light Analysis of the Dust Grain Population in the GG Tauri Circumbinary Ring. *G. Duchêne, C. McCabe, A. M. Ghez, & B. A. Macintosh*. 606, 969 (2004)
- Mid-Infrared Observations of van Maanen 2: No Substellar Companion. *J. Farihi, E. E. Becklin, & B. A. Macintosh*. 608, L109 (2004)
- MACKAY, TIMOTHY A. See TEGMARK, MAX, et al. The Three-dimensional Power Spectrum of Galaxies from the Sloan Digital Sky Survey.
- MAC LOW, MORDECAI-MARK. Chondrule Formation and Protoplanetary Disk Heating by Current Sheets in Noneideal Magnetohydrodynamic Turbulence. *M. K. Ryan Joung, Mordecai-Mark Mac Low, & Denton S. Ebel*. 606, 532 (2004)
- MADAU, PIERO. The Effect of Gravitational-Wave Recoil on the Demography of Massive Black Holes. *Piero Madau & Eliot Quataert*. 606, L17 (2004)
- Compton Echoes from Gamma-Ray Bursts: Unveiling Misaligned Jets in Nearby Type Ib/c Supernovae. *Enrico Ramirez-Ruiz & Piero Madau*. 608, L89 (2004)
- MADEJSKI, G. M. Complex Structure of Galaxy Cluster A1689: Evidence for a Merger from X-Ray Data? *K. E. Andersson & G. M. Madejski*. 607, 190 (2004)
- MADORE, BARRY F. Companions to Isolated Elliptical Galaxies: Revisiting the Bothun-Sullivan Sample. *Barry F. Madore, Wendy L. Freedman, & Gregory D. Bothun*. 607, 810 (2004)
- MAGARA, T. A Comparison of the Minimum Current Corona to a Magnetohydrodynamic Simulation of Quasi-Static Coronal Evolution. *D. W. Longcope & T. Magara*. 608, 1106 (2004)
- MAGRIS, G. See RENGSTORF, A. W., et al. New Quasars Detected via Variability in the QUEST1 Survey.
- MAHADEVAN, SUVRATH. Evidence of Planetesimal Infall onto the Very Young Herbig Be Star LkHa 234. *Abhijit Chakraborty, Jian Ge, & Suvrath Mahadevan*. 606, L69 (2004)
- MAHDAVI, ANDISHEH. A Redshift Survey of Nearby Galaxy Groups: The Shape of the Mass Density Profile. *Andisheh Mahdavi & Margaret J. Geller*. 607, 202 (2004)
- MAIER, G. See ANTONI, T., et al. Search for Cosmic-Ray Point Sources with KASCADE.
- MAIOLINO, R. Stellar and Gaseous Abundances in M82. *L. Origlia, P. Ranalli, A. Comastri, & R. Maiolino*. 606, 862 (2004)

- MAITRA, DIPANKAR. Evolution of Spectral States of Aquila X-1 during the 2000 Outburst. *Dipankar Maitra & Charles D. Bailyn*. 608, 444 (2004)
- MAKIDON, R. B. *Hubble Space Telescope* WPC2 Study of the Trapezium Cluster: The Influence of Circumstellar Disks on the Initial Mass Function. *M. Robberto, J. Song, G. Mora Carrillo, S. V. W. Beckwith, R. B. Makidon, & N. Panagia*. 606, 952 (2004)
- MAKINO, JUNICHIRO. Structure of Dark Matter Halos from Hierarchical Clustering. III. Shallowing of the Inner Cusp. *Toshiyuki Fukushima, Atsushi Kawai, & Junichiro Makino*. 606, 625 (2004)
- MAKSIMOVIC, M. A Transonic Collisionless Model of the Solar Wind. *I. Zouganelis, M. Maksimovic, N. Meyer-Vernet, H. Lamy, & K. Issautier*. 606, 542 (2004)
- MALAGUTI, G. See BIRD, A. J., et al. The First IBIS/ISGRI Soft Gamma-Ray Galactic Plane Survey Catalog.
- MALHOTRA, S. See WANG, J. X., et al. X-Ray Nondetection of the Ly α Emitters at $z \sim 4.5$.
- MALIZIA, A. See BIRD, A. J., et al. The First IBIS/ISGRI Soft Gamma-Ray Galactic Plane Survey Catalog.
- MAKAN, MATTHEW A. The Counterarc to MS 1512–cB58 and a Companion Galaxy. *Harry I. Teplitz, Matthew A. Makan, & Ian S. McLean*. 608, 36 (2004)
- MALUMUTH, E. See GRADY, C. A., et al. The Environment of the Optically Brightest Herbig Ae Star, HD 104237.
- MANFROID, JEAN. An X-Ray Investigation of the NGC 346 Field in the Small Magellanic Cloud. III. *XMM-Newton* Data. *Yaël Nazé, Jean Manfroid, Ian R. Stevens, Michael F. Corcoran, & Aaron Flores*. 608, 208 (2004)
- MANOHARAN, P. K. Radio Observations of Rapid Acceleration in a Slow Filament Eruption/Fast Coronal Mass Ejection Event. *M. R. Kundu, S. M. White, V. I. Garaimov, P. K. Manoharan, P. Subramanian, S. Ananthakrishnan, & P. Janardhan*. 607, 530 (2004)
- MARASCHI, L. A Survey of Extended Radio Jets with *Chandra* and the *Hubble Space Telescope*. *Rita M. Sambruna, Jessica K. Gambill, L. Maraschi, F. Tavecchio, R. Cerutti, C. C. Cheung, C. Megan Urry, & G. Chartas*. 608, 698 (2004)
- MARASTON, C. The Munich Near-Infrared Cluster Survey (MUNICS). VI. The Stellar Masses of *K*-Band–Selected Field Galaxies to $z \sim 1.2$. *N. Drory, R. Bender, G. Feulner, U. Hopp, C. Maraston, J. Snigula, & G. J. Hill*. 608, 742 (2004)
- MARASTON, CLAUDIA. Probing the Red Giant Branch Phase Transition: Near-Infrared Photometry of Six Intermediate-Age Large Magellanic Cloud Clusters. *Francesco R. Ferraro, Livia Origlia, Vincenzo Testa, & Claudia Maraston*. 608, 772 (2004)
- MARDONES, DIEGO. The Role of Gas in the Merging of Massive Black Holes in Galactic Nuclei. I. Black Hole Merging in a Spherical Gas Cloud. *Andrés Escala, Richard B. Larson, Paolo S. Coppi, & Diego Mardones*. 607, 765 (2004)
- MARINUCCI, DOMENICO. Asymmetries in the Local Curvature of the *Wilkinson Microwave Anisotropy Probe* Data. *Frode K. Hansen, Paolo Cabella, Domenico Marinucci, & Nicola Vittorio*. 607, L67 (2004)
- MARION, G. H. See GERARDY, CHRISTOPHER L., et al. SN 2003du: Signatures of the Circumstellar Environment in a Normal Type Ia Supernova?
- MARKEVITCH, M. Direct Constraints on the Dark Matter Self-Interaction Cross Section from the Merging Galaxy Cluster 1E 0657–56. *M. Markevitch, A. H. Gonzalez, D. Clowe, A. Vikhlinin, W. Forman, C. Jones, S. Murray, & W. Tucker*. 606, 819 (2004)
- Chandra* Observations of the “Dark” Moon and Geocoronal Solar Wind Charge Transfer. *B. J. Wargelin, M. Markevitch, M. Juda, V. Kharchenko, R. Edgar, & A. Dalgarno*. 607, 596 (2004)
- MARSHALL, K. See BARAI, P., et al. Mass and Angular Momentum Transfer in the Massive Algol Binary RY Persei.
- MARTIN, P. G. GSH 23.0–0.7+117: A Neutral Hydrogen Shell in the Inner Galaxy. *J. M. Stil, A. R. Taylor, P. G. Martin, T. A. Rothwell, J. M. Dickey, & N. M. McClure-Griffiths*. 608, 297 (2004)
- MASAI, KUNIAKI. Non-LTE Curves of Growth of X-Ray Absorption Lines. *Kuniaki Masai & Manabu Ishida*. 607, 76 (2004)
- MAS-HESE, MIGUEL. Extended Tidal Structure in Two Ly α -Emitting Starburst Galaxies. *John M. Cannon, Evan D. Skillman, Daniel Kunth, Claus Leitherer, Miguel Mas-Hesse, Göran Östlin, & Artashes Petrosian*. 608, 768 (2004)
- MASON, G. M. Abundances of Heavy and Ultraheavy Ions in ^3He -rich Solar Flares. *G. M. Mason, J. E. Mazur, J. R. Dwyer, J. R. Jokipii, R. E. Gold, & S. M. Krimigis*. 606, 555 (2004)
- MASON, K. O. Relativistic O VIII Emission and Ionized Outflow in NGC 4051 Measured with *XMM-Newton*. *P. M. Ogle, K. O. Mason, M. J. Page, N. J. Salvi, F. A. Cordova, I. M. McHardy, & W. C. Priedhorsky*. 606, 151 (2004)
- MASSEY, PHILIP. The Physical Properties and Effective Temperature Scale of O-Type Stars as a Function of Metallicity. I. A Sample of 20 Stars in the Magellanic Clouds. *Philip Massey, Fabio Bresolin, Rolf P. Kudritzki, Joachim Puls, & A. W. A. Pauldrach*. 608, 1001 (2004)
- A CNO Dichotomy among O2 Giant Spectra in the Magellanic Clouds. *Nolan R. Walborn, Nidia I. Morrell, Ian D. Howarth, Paul A. Crowther, Daniel J. Lennon, Philip Massey, & Julia I. Arias*. 608, 1028 (2004)
- MASTERS, KAREN L. The Impact of Distance Uncertainties on Local Luminosity and Mass Functions. *Karen L. Masters, Martha P. Haynes, & Riccardo Giovanelli*. 607, L115 (2004)
- MASTROPIETRO, CHIARA. Density Profiles of Cold Dark Matter Substructure: Implications for the Missing-Satellites Problem. *Stelios Kazantzidis, Lucio Mayer, Chiara Mastropietro, Jürg Diemand, Joachim Stadel, & Ben Moore*. 608, 663 (2004)
- MASUDA, K. See BOND, I. A., et al. OGLE 2003-BLG-235/MOA 2003-BLG-53: A Planetary Microlensing Event.
- MATHER, J. Detecting Population III Stars through Observations of Near-Infrared Cosmic Infrared Background Anisotropies. *A. Kashlinsky, R. Arendt, Jonathan P. Gardner, J. Mather, & S. Harvey Moseley*. 608, 1 (2004)
- MATHES, H. J. See ANTONI, T., et al. Search for Cosmic-Ray Point Sources with KASCADE.
- MATHEWS, G. J. Neutrino Effects before, during, and after the Freezeout of the r -Process. *M. Terasawa, K. Langanke, T. Kajino, G. J. Mathews, & E. Kolbe*. 608, 470 (2004)
- MATHEWS, WILLIAM G. Ultralow Iron Abundances in the Distant Hot Gas in Galaxy Groups. *David A. Buote, Fabrizio Brighenti, & William G. Mathews*. 607, L91 (2004)
- MATHIESEN, BENJAMIN F. Reprocessing of Soft X-Ray Emission Lines in Black Hole Accretion Disks. *Christopher W. Mauche, Duane A. Liedahl, Benjamin F. Mathiesen, Mario A. Jimenez-Garate, & John C. Raymond*. 606, 168 (2004)
- MATHUR, SMITA. $M_{\text{BH}}-\sigma$ Relation for a Complete Sample of Soft X-Ray–selected Active Galactic Nuclei. *Dirk Grupe & Smita Mathur*. 606, L41 (2004)
- MATSUBARA, TAKAHIKO. Eigenmode Analysis of Galaxy Distributions in Redshift Space. *Takahiko Matsubara, Alexander S. Szalay, & Adrian C. Pope*. 606, 1 (2004)
- See POPE, ADRIAN C., et al. Cosmological Parameters from Eigenmode Analysis of Sloan Digital Sky Survey Galaxy Redshifts.
- MATSUBARA, Y. See TSUCHIYA, K., et al. Detection of Sub-TeV Gamma Rays from the Galactic Center Direction by CANGAROO-II.
- See BOND, I. A., et al. OGLE 2003-BLG-235/MOA 2003-BLG-53: A Planetary Microlensing Event.
- See KAWACHI, A., et al. A Search for TeV Gamma-Ray Emission from the PSR B1259–63/SS 2883 Binary System with the Cangaroo-II 10 m Telescope.
- MATSUMIYA, MAKOTO. Reconstructing the Primordial Spectrum from *WMAP* Data by the Cosmic Inversion Method. *Noriyuki Kogo, Makoto Matsumiya, Misao Sasaki, & Jun'ichi Yokoyama*. 607, 32 (2004)
- MATSUMOTO, R. Magnetohydrodynamic Simulations of the Formation of Cold Fronts in Clusters of Galaxies Including Heat Conduction. *N. Asai, N. Fukuda, & R. Matsumoto*. 606, L105 (2004)
- MATSUMOTO, T. First Star Signature in Infrared Background Anisotropies. *Asantha Cooray, James J. Bock, Brian Keating, Andrew E. Lange, & T. Matsumoto*. 606, 611 (2004)
- MATT, SEAN. Does Disk Locking Solve the Stellar Angular Momentum Problem? *Sean Matt & Ralph E. Pudritz*. 607, L43 (2004)
- MATTHEWS, BRENDA C. A Submillimeter Search of Nearby Young Stars for Cold Dust: Discovery of Debris Disks around Two Low-Mass Stars. *Michael C. Liu, Brenda C. Matthews, Jonathan P. Williams, & Paul G. Kalas*. 608, 526 (2004)
- MAUCHE, CHRISTOPHER W. Reprocessing of Soft X-Ray Emission Lines in Black Hole Accretion Disks. *Christopher W. Mauche, Duane A. Liedahl, Benjamin F. Mathiesen, Mario A. Jimenez-Garate, & John C. Raymond*. 606, 168 (2004)
- MAYER, H. J. See ANTONI, T., et al. Search for Cosmic-Ray Point Sources with KASCADE.

- MAYER, L. See GOVERNATO, F., et al. The Formation of a Realistic Disk Galaxy in Λ -dominated Cosmologies.
- MAYER, LUCIO. Density Profiles of Cold Dark Matter Substructure: Implications for the Missing-Satellites Problem. *Stelios Kazantzidis, Lucio Mayer, Chiara Mastropietro, Jürg Diemand, Joachim Stadel, & Ben Moore*. 608, 663 (2004)
- MAYR, HANS G. The Sun's Reversing Flows and Heat Spike as Caused by g -Modes. *Charles L. Wolff & Hans G. Mayr*. 606, L163 (2004)
- MAZUK, S. See LYNCH, DAVID K., et al. 0.8–13 Micron Spectroscopy of V838 Monocerotis and a Model for Its Emission.
- MAZUR, J. E. Abundances of Heavy and Ultraheavy Ions in ^3He -rich Solar Flares. *G. M. Mason, J. E. Mazur, J. R. Dwyer, J. R. Jokipii, R. E. Gold, & S. M. Krimigis*. 606, 555 (2004)
- MAZZALI, P. A. The Rates of Hypernovae and Gamma-Ray Bursts: Implications for Their Progenitors. *Ph. Podsiadlowski, P. A. Mazzali, K. Nomoto, D. Lazzati, & E. Cappellaro*. 607, L17 (2004)
- MCCABE, C. A Multiwavelength Scattered Light Analysis of the Dust Grain Population in the GG Tauri Circumbinary Ring. *G. Duchêne, C. McCabe, A. M. Ghez, & B. A. Macintosh*. 606, 969 (2004)
- MCCARTHY, IAN G. Photoevaporation of Circumstellar Disks around Young Stars. *Andrea S. Font, Ian G. McCarthy, Doug Johnstone, & David R. Ballantyne*. 607, 890 (2004)
- MCCARTHY, PATRICK J. Hubble Space Telescope Imaging and Keck Spectroscopy of $z \approx 6$ i -Band Dropout Galaxies in the Advanced Camera for Surveys GOODS Fields. *Elizabeth R. Stanway, Andrew J. Bunker, Richard G. McMahon, Richard S. Ellis, Tommaso Treu, & Patrick J. McCarthy*. 607, 704 (2004)
- MCCLURE-GRIFFITHS, N. M. The Complex Neutral Gas Dynamics of the Dwarf Starburst Galaxy NGC 625. *John M. Cannon, N. M. McClure-Griffiths, Evan D. Skillman, & Stéphanie Côté*. 607, 274 (2004)
- A Distant Extended Spiral Arm in the Fourth Quadrant of the Milky Way. *N. M. McClure-Griffiths, John M. Dickey, B. M. Gaensler, & A. J. Green*. 607, L127 (2004)
- GSH 23.0–0.7+117: A Neutral Hydrogen Shell in the Inner Galaxy. *J. M. Stil, A. R. Taylor, P. G. Martin, T. A. Rothwell, J. M. Dickey, & N. M. McClure-Griffiths*. 608, 297 (2004)
- MCEENERY, J. See KOSACK, K., et al. TeV Gamma-Ray Observations of the Galactic Center.
- MCEENERY, J. E. See ATKINS, R., et al. TeV Gamma-Ray Survey of the Northern Hemisphere Sky Using the Milagro Observatory.
- MCGRATH, ELIZABETH J. Boron Benchmarks for the Galactic Disk. *Ann Merchant Boesgaard, Elizabeth J. McGrath, David L. Lambert, & Katia Cunha*. 606, 306 (2004)
- MCGRAW, J. T. The Pattern Speeds of M51, M83, and NGC 6946 Using CO and the Tremaine-Weinberg Method. *P. Zimmer, R. J. Rand, & J. T. McGraw*. 607, 285 (2004)
- MCHARDY, I. M. Relativistic O VIII Emission and Ionized Outflow in NGC 4051 Measured with XMM-Newton. *P. M. Ogle, K. O. Mason, M. J. Page, N. J. Salvi, F. A. Cordova, I. M. McHardy, & W. C. Priedhorsky*. 606, 151 (2004)
- MCINTOSH, DANIEL H. See BELL, ERIC F., et al. Nearly 5000 Distant Early-Type Galaxies in COMBO-17: A Red Sequence and Its Evolution since $z \sim 1$.
- MCKERNAN, BARRY. High-Resolution X-Ray Spectroscopy of the Fe K Complex in IC 4329A. *Barry McKernan & Tahir Yaqoob*. 608, 157 (2004)
- MCKINNON, MARK M. On the Excess Dispersion in the Polarization Position Angle of Pulsar Radio Emission. *Mark M. McKinnon*. 606, 1154 (2004)
- MCLEAN, IAN S. The Counterarc to MS 1512–cB58 and a Companion Galaxy. *Harry I. Teplitz, Matthew A. Malkan, & Ian S. McLean*. 608, 36 (2004)
- MCMAHON, RICHARD G. Hubble Space Telescope Imaging and Keck Spectroscopy of $z \approx 6$ i -Band Dropout Galaxies in the Advanced Camera for Surveys GOODS Fields. *Elizabeth R. Stanway, Andrew J. Bunker, Richard G. McMahon, Richard S. Ellis, Tommaso Treu, & Patrick J. McCarthy*. 607, 704 (2004)
- MCMANARA, B. R. See MULLIS, C. R., et al. Evolution of the Cluster X-Ray Luminosity Function.
- A Systematic Study of Radio-induced X-Ray Cavities in Clusters, Groups, and Galaxies. *L. Birzan, D. A. Rafferty, B. R. McManara, M. W. Wise, & P. E. J. Nulsen*. 607, 800 (2004)
- MCSWAIN, M. V. See BARAL, P., et al. Mass and Angular Momentum Transfer in the Massive Algol Binary RY Persei.
- MEGEATH, T. See BRICEÑO, C., et al. McNeil's Nebula in Orion: The Outburst History.
- MEHRINGER, DAVID M. Detection of Vibrationally Excited Ethyl Cyanide in the Interstellar Medium. *David M. Mehringer, J. C. Pearson, Jocelyn Keene, & T. G. Phillips*. 608, 306 (2004)
- MEIKSIN, AVERY. See POPE, ADRIAN C., et al. Cosmological Parameters from Eigenmode Analysis of Sloan Digital Sky Survey Galaxy Redshifts.
- See ZEHAVALI, IDIT, et al. On Departures from a Power Law in the Galaxy Correlation Function.
- MEISENHEIMER, KLAUS. See BELL, ERIC F., et al. Nearly 5000 Distant Early-Type Galaxies in COMBO-17: A Red Sequence and Its Evolution since $z \sim 1$.
- MELNICK, GARY J. See STARK, RONALD, et al. Probing the Early Stages of Low-Mass Star Formation in LDN 1689N: Dust and Water in IRAS 16293–2422A, B, and E.
- MENCI, N. X-Ray Evolution of Active Galactic Nuclei and Hierarchical Galaxy Formation. *N. Menci, F. Fiore, G. C. Perola, & A. Cavaliere*. 606, 58 (2004)
- MENOU, KRISTEN. Low-Mass Protoplanet Migration in T Tauri α -Disks. *Kristen Menou & Jeremy Goodman*. 606, 520 (2004)
- Local Axisymmetric Diffusive Stability of Weakly Magnetized, Differentially Rotating, Stratified Fluids. *Kristen Menou, Steven A. Balbus, & Henk C. Spruit*. 607, 564 (2004)
- MENTEN, K. M. The Faint Counterparts of Max-Planck-Millimeter-Bolometer (MAMBO) Millimeter Sources near the New Technology Telescope Deep Field. *H. Dannerbauer, M. D. Lehnert, D. Lutz, L. Tacconi, F. Bertoldi, C. Carilli, R. Genzel, & K. M. Menten*. 606, 664 (2004)
- MEREGHETTI, S. Pronounced Long-Term Flux Variability of the Anomalous X-Ray Pulsar 1E 1048.1–5937. *S. Meregghetti, A. Tiengo, L. Stella, G. L. Israel, N. Rea, S. Zane, & T. Oosterbroek*. 608, 427 (2004)
- MERRITT, DAVID. A Self-Consistent Study of Triaxial Black Hole Nuclei. *M. Y. Poon & David Merritt*. 606, 774 (2004)
- Chaotic Loss Cones and Black Hole Fueling. *David Merritt & M. Y. Poon*. 606, 788 (2004)
- Consequences of Gravitational Radiation Recoil. *David Merritt, Miloš Milosavljević, Marc Favata, Scott A. Hughes, & Daniel E. Holz*. 607, L9 (2004)
- Core Formation by a Population of Massive Remnants. *David Merritt, Slavomir Piatek, Simon Portegies Zwart, & Marc Hensendorff*. 608, L25 (2004)
- METCALF, R. BENTON. Spectroscopic Gravitational Lensing and Limits on the Dark Matter Substructure in Q2237+0305. *R. Benton Metcalf, Leonidas A. Moustakas, Andrew J. Bunker, & Ian R. Parry*. 607, 43 (2004)
- METZGER, ALBERT E. An X-Ray Measurement of Titan's Atmospheric Extent from Its Transit of the Crab Nebula. *Koji Mori, Hiroshi Tsunemi, Hanyoshi Katayama, David N. Burrows, Gordon P. Garmire, & Albert E. Metzger*. 607, 1065 (2004)
- MEURER, G. See BOUWENS, R. J., et al. Star Formation at $z \sim 6$: The Hubble Ultra Deep Parallel Fields.
- MEYER, S. S. See NOLTA, M. R., et al. First Year Wilkinson Microwave Anisotropy Probe Observations: Dark Energy Induced Correlation with Radio Sources.
- MEYER-VERNET, N. A Transonic Collisionless Model of the Solar Wind. *I. Zouganelis, M. Maksimovic, N. Meyer-Vernet, H. Lamy, & K. Issautier*. 606, 542 (2004)
- MICELA, G. See WOLK, S. J., et al. Coronal Variability in the Young Cluster NGC 2516.
- A Deep Chandra X-Ray Observation of the Rich Young Cluster NGC 6530. I. The X-Ray Source Catalog and the Cluster Population. *F. Damiani, E. Flaccomio, G. Micela, S. Sciortino, F. R. Harnden, Jr., & S. S. Murray*. 608, 781 (2004)
- MICHAUD, G. Models for Solar Abundance Stars with Gravitational Settling and Radiative Accelerations: Application to M67 and NGC 188. *G. Michaud, O. Richard, J. Richer, & Don A. Vandenberg*. 606, 452 (2004)
- MIHOS, J. CHRISTOPHER. E+A Galaxies and the Formation of Early Type Galaxies at $z \sim 0$. *Yujin Yang, Ann I. Zabludoff, Dennis Zaritsky, Tod R. Lauer, & J. Christopher Mihos*. 607, 258 (2004)
- MILKE, J. See ANTONI, T., et al. Search for Cosmic-Ray Point Sources with KASCADE.
- MILLER, J. M. Evidence of Black Hole Spin in GX 339–4: XMM-Newton/EPIC-pn and RXTE Spectroscopy of the Very High State. *J. M. Miller, A. C. Fabian, C. S. Reynolds, M. A. Nowak, J. Homan, M. J.*

- Freyberg, M. Ehle, T. Belloni, R. Wijnands, M. van der Klis, P. A. Charles, & W. H. G. Lewin. 606, L131 (2004)
- Revealing a Cool Accretion Disk in the Ultraluminous X-Ray Source M81 X-9 (Holmberg IX X-1): Evidence for an Intermediate-Mass Black Hole. *J. M. Miller, A. C. Fabian, & M. C. Miller*. 607, 931 (2004)
- MILLER, JON M. Monitoring *Chandra* Observations of the Quasi-persistent Neutron Star X-Ray Transient MXB 1659–29 in Quiescence: The Cooling Curve of the Heated Neutron Star Crust. *Rudy Wijnands, Jeroen Homan, Jon M. Miller, & Walter H. G. Lewin*. 606, L61 (2004)
- MILLER, LANCE. Gemini Imaging of QSO Host Galaxies at $z \sim 2$. *Scott M. Croom, David Schade, Brian J. Boyle, Tom Shanks, Lance Miller, & Robert J. Smith*. 606, 126 (2004)
- MILLER, M. C. Revealing a Cool Accretion Disk in the Ultraluminous X-Ray Source M81 X-9 (Holmberg IX X-1): Evidence for an Intermediate-Mass Black Hole. *J. M. Miller, A. C. Fabian, & M. C. Miller*. 607, 931 (2004)
- MILLER, R. S. See ATKINS, R., et al. TeV Gamma-Ray Survey of the Northern Hemisphere Sky Using the Milagro Observatory.
- MILOSAVLJEVIĆ, MILOŠ. Consequences of Gravitational Radiation Recoil. *David Merritt, Miloš Milosavljević, Marc Favata, Scott A. Hughes, & Daniel E. Holz*. 607, L9 (2004)
- MILOVANOVIC, A. See KOSACK, K., et al. TeV Gamma-Ray Observations of the Galactic Center.
- MINCER, A. I. See ATKINS, R., et al. TeV Gamma-Ray Survey of the Northern Hemisphere Sky Using the Milagro Observatory.
- MINESHINGE, SHIN. The Hot Disk Corona and Magnetic Turbulence in Radio-quiet Active Galactic Nuclei: Observational Constraints. *Jian-Min Wang, Ken-Ya Watarai, & Shin Mineshinge*. 607, L107 (2004)
- MIRABAL, N. See LIPKIN, Y. M., et al. The Detailed Optical Light Curve of GRB 030329.
- See SODERBERG, A. M., et al. A Redshift Determination for XRF 020903: First Spectroscopic Observations of an X-Ray Flash.
- MIYAJI, TAKAMITSU. A Transition to a Low/Soft State in the Ultraluminous Compact X-Ray Source Holmberg II X-1. *Gulab C. Dewangan, Takamitsu Miyaji, Richard E. Griffiths, & Ingo Lehmann*. 608, L57 (2004)
- MIYASHITA, Y. See TSUCHIYA, K., et al. Detection of Sub-TeV Gamma Rays from the Galactic Center Direction by CANGAROO-II.
- MIZUMOTO, Y. See TSUCHIYA, K., et al. Detection of Sub-TeV Gamma Rays from the Galactic Center Direction by CANGAROO-II.
- See KAWACHI, A., et al. A Search for TeV Gamma-Ray Emission from the PSR B1259–63/SS 2883 Binary System with the Cangaroo-II 10 m Telescope.
- MIZUNO, YOSUKE. General Relativistic Magnetohydrodynamic Simulations of Collapsars. *Yosuke Mizuno, Shoichi Yamada, Shinji Koide, & Kazunari Shibata*. 606, 395 (2004)
- MIZUTA, AKIRA. Propagation and Dynamics of Relativistic Jets. *Akira Mizuta, Shoichi Yamada, & Hideaki Takabe*. 606, 804 (2004)
- MO, HOJUN J. See ZEHAZI, IDIT, et al. On Departures from a Power Law in the Galaxy Correlation Function.
- MOBASHER, BAHRAM. See RIESS, ADAM G., et al. Type Ia Supernova Discoveries at $z > 1$ from the *Hubble Space Telescope*: Evidence for Past Deceleration and Constraints on Dark Energy Evolution.
- MOORE, BEN. Density Profiles of Cold Dark Matter Substructure: Implications for the Missing-Satellites Problem. *Stelios Kazantzidis, Lucio Mayer, Chiara Mastroiello, Jürg Diemand, Joachim Stadel, & Ben Moore*. 608, 663 (2004)
- MORA CARRILLO, G. *Hubble Space Telescope* WFPC2 Study of the Trapezium Cluster: The Influence of Circumstellar Disks on the Initial Mass Function. *M. Robberto, J. Song, G. Mora Carrillo, S. V. W. Beckwith, R. B. Makidon, & N. Panagia*. 606, 952 (2004)
- MORALES, M. F. See ATKINS, R., et al. TeV Gamma-Ray Survey of the Northern Hemisphere Sky Using the Milagro Observatory.
- MORGANTHALER, JEFFERY P. Oxygen/Hydrogen Chemistry in the Inner Comae of Active Comets. *Robert J. Glinski, Brian J. Ford, Walter M. Harris, Christopher M. Anderson, & Jeffery P. Morgenthaler*. 608, 601 (2004)
- MORI, KOJI. An X-Ray Measurement of Titan's Atmospheric Extent from Its Transit of the Crab Nebula. *Koji Mori, Hiroshi Tsunemi, Hanyoshi Katayama, David N. Burrows, Gordon P. Garmire, & Albert E. Metzger*. 607, 1065 (2004)
- MORI, M. See TSUCHIYA, K., et al. Detection of Sub-TeV Gamma Rays from the Galactic Center Direction by CANGAROO-II.
- See KAWACHI, A., et al. A Search for TeV Gamma-Ray Emission from the PSR B1259–63/SS 2883 Binary System with the Cangaroo-II 10 m Telescope.
- MORIARTY, P. See KOSACK, K., et al. TeV Gamma-Ray Observations of the Galactic Center.
- MORO, H. See TSUCHIYA, K., et al. Detection of Sub-TeV Gamma Rays from the Galactic Center Direction by CANGAROO-II.
- See KAWACHI, A., et al. A Search for TeV Gamma-Ray Emission from the PSR B1259–63/SS 2883 Binary System with the Cangaroo-II 10 m Telescope.
- MORRELL, NIDIA I. A CNO Dichotomy among O2 Giant Spectra in the Magellanic Clouds. *Nolan R. Walborn, Nidia I. Morrell, Ian D. Howarth, Paul A. Crowther, Daniel J. Lennon, Philip Massey, & Julia I. Arias*. 608, 1028 (2004)
- MORRIS, MARK. Dynamical Friction on Galactic Center Star Clusters with an Intermediate-Mass Black Hole. *Sungsoo S. Kim, Donald F. Figer, & Mark Morris*. 607, L123 (2004)
- MOSCARDINI, L. See MURANTE, G., et al. The Diffuse Light in Simulations of Galaxy Clusters.
- MOSELEY, S. HARVEY. Detecting Population III Stars through Observations of Near-Infrared Cosmic Infrared Background Anisotropies. *A. Kashlinsky, R. Arendt, Jonathan P. Gardner, J. Mather, & S. Harvey Moseley*. 608, 1 (2004)
- MOSQUERA CUESTA, HERMAN J. Nonlinear Electrodynamics and the Surface Redshift of Pulsars. *Herman J. Mosquera Cuesta & José M. Salim*. 608, 925 (2004)
- MOTL, PATRICK M. Formation of Cool Cores in Galaxy Clusters via Hierarchical Mergers. *Patrick M. Motl, Jack O. Burns, Chris Loken, Michael L. Norman, & Greg Bryan*. 606, 635 (2004)
- MOUSTAKAS, LEONIDAS A. Spectroscopic Gravitational Lensing and Limits on the Dark Matter Substructure in Q2237+0305. *R. Benton Metcalf, Leonidas A. Moustakas, Andrew J. Bunker, & Ian R. Parry*. 607, 43 (2004)
- MUCH, R. See BIRD, A. J., et al. The First IBIS/ISGR1 Soft Gamma-Ray Galactic Plane Survey Catalog.
- MUELLER, C. See SCALZO, R. A., et al. High-Energy Gamma-Ray Observations of W Comae with the Solar Tower Atmospheric Cerenkov Effect Experiment (STACEE).
- MÜLLER, D. A New Measurement of the Intensities of the Heavy Primary Cosmic-Ray Nuclei around 1 TeV amu^{-1} . *F. Gahbauer, G. Hermann, J. R. Hörandel, D. Müller, & A. A. Radu*. 607, 333 (2004)
- MÜLLER, M. See ANTONI, T., et al. Search for Cosmic-Ray Point Sources with KASCADE.
- MUFSON, S. L. See RENGSTORF, A. W., et al. New Quasars Detected via Variability in the QUEST1 Survey.
- MUKADAM, A. S. See KLEINMAN, S. J., et al. A Catalog of Spectroscopically Identified White Dwarf Stars in the First Data Release of the Sloan Digital Sky Survey.
- MUKADAM, ANJUM S. Thirty-Five New Pulsating DA White Dwarf Stars. *Anjum S. Mukadam, F. Mullally, R. E. Nather, D. E. Winget, Ted von Hippel, S. J. Kleinman, Atsuko Nitta, Jurek Krzesiński, S. O. Kepler, A. Kanaan, D. Koester, D. J. Sullivan, D. Homeier, S. E. Thompson, D. Reaves, C. Cotter, D. Slaughter, & J. Brinkmann*. 607, 982 (2004)
- MUKHERJEE, PIA. Model-independent Constraints on Dark Energy Density from Flux-Averaging Analysis of Type Ia Supernova Data. *Yun Wang & Pia Mukherjee*. 606, 654 (2004)
- MUKHERJEE, R. See SCALZO, R. A., et al. High-Energy Gamma-Ray Observations of W Comae with the Solar Tower Atmospheric Cerenkov Effect Experiment (STACEE).
- MULLALLY, F. See MUKADAM, ANJUM S., et al. Thirty-Five New Pulsating DA White Dwarf Stars.
- MULLER, D. See KOSACK, K., et al. TeV Gamma-Ray Observations of the Galactic Center.
- MULLIS, C. R. Evolution of the Cluster X-Ray Luminosity Function. *C. R. Mullis, A. Vikhlinin, J. P. Henry, W. Forman, I. M. Gioia, A. Hornstrup, C. Jones, B. R. McNamara, & H. Quintana*. 607, 175 (2004)
- MULLIS, CHRISTOPHER R. The Dipole Anisotropy of the First All-Sky X-Ray Cluster Sample. *Dale D. Kocevski, Christopher R. Mullis, & Harald Ebeling*. 608, 721 (2004)
- MUNN, JEFFREY A. See TEGMARK, MAX, et al. The Three-dimensional Power Spectrum of Galaxies from the Sloan Digital Sky Survey.
- See KLEINMAN, S. J., et al. A Catalog of Spectroscopically Identified White Dwarf Stars in the First Data Release of the Sloan Digital Sky Survey.
- See ZEHAZI, IDIT, et al. On Departures from a Power Law in the Galaxy Correlation Function.

- MUNO, MICHAEL P. The Effect of Neutron Star Rotation on the Properties of Thermonuclear X-Ray Bursts. *Michael P. Muno, Duncan K. Galloway, & Deepto Chakrabarty*. 608, 930 (2004)
- MURAISHI, H. See TSUCHIYA, K., et al. Detection of Sub-TeV Gamma Rays from the Galactic Center Direction by CANGAROO-II.
See KAWACHI, A., et al. A Search for TeV Gamma-Ray Emission from the PSR B1259–63/SS 2883 Binary System with the Cangaroo-II 10 m Telescope.
- MURAKAMI, MASAKATSU. Self-Similar Gravitational Collapse of Radiatively Cooling Spheres. *Masakatsu Murakami, Katsunobu Nishihara, & Tomoyuki Hanawa*. 607, 879 (2004)
- MURAKI, Y. See TSUCHIYA, K., et al. Detection of Sub-TeV Gamma Rays from the Galactic Center Direction by CANGAROO-II.
See BOND, I. A., et al. OGLE 2003-BLG-235/MOA 2003-BLG-53: A Planetary Microlensing Event.
See KAWACHI, A., et al. A Search for TeV Gamma-Ray Emission from the PSR B1259–63/SS 2883 Binary System with the Cangaroo-II 10 m Telescope.
- MURANTE, G. The Diffuse Light in Simulations of Galaxy Clusters. *G. Murante, M. Arnaboldi, O. Gerhard, S. Borgani, L. M. Cheng, A. Diaferio, K. Dolag, L. Moscardini, G. Tormen, L. Tornatore, & P. Tozzi*. 607, L83 (2004)
- MURRAY, S. Direct Constraints on the Dark Matter Self-Interaction Cross Section from the Merging Galaxy Cluster 1E 0657–56. *M. Markevitch, A. H. Gonzalez, D. Clowe, A. Vikhlinin, W. Forman, C. Jones, S. Murray, & W. Tucker*. 606, 819 (2004)
- MURRAY, S. S. See WOLK, S. J., et al. Coronal Variability in the Young Cluster NGC 2516.
A Deep Chandra X-Ray Observation of the Rich Young Cluster NGC 6530. I. The X-Ray Source Catalog and the Cluster Population. *F. Damiani, E. Flaccomio, G. Micela, S. Sciortino, F. R. Harnden, Jr., & S. S. Murray*. 608, 781 (2004)
- MURRAY-CLAY, RUTH A. The Circumbinary Ring of KH 15D. *Eugene I. Chiang & Ruth A. Murray-Clay*. 607, 913 (2004)
- MUSLIMOV, ALEX G. High-Altitude Particle Acceleration and Radiation in Pulsar Slot Gaps. *Alex G. Muslimov & Alice K. Harding*. 606, 1143 (2004)
- MUSSER, J. See RENGSTORF, A. W., et al. New Quasars Detected via Variability in the QUEST1 Survey.
- NAGAI, T. See KOSACK, K., et al. TeV Gamma-Ray Observations of the Galactic Center.
- NAGASHIMA, C. See OJHA, D. K., et al. Deep Near-Infrared Observations of the W3 Main Star-forming Region.
- NAGATA, T. See OJHA, D. K., et al. Deep Near-Infrared Observations of the W3 Main Star-forming Region.
- NAGATAKI, SHIGEHITO. Numerical Study on Propagation of Ultra-High Energy Cosmic Rays in the Galactic Magnetic Field. *Hiroyuki Yoshiguchi, Shigehito Nagataki, & Katsuhiko Sato*. 607, 840 (2004)
- NAGAYAMA, T. See OJHA, D. K., et al. Deep Near-Infrared Observations of the W3 Main Star-forming Region.
- NAITO, T. See TSUCHIYA, K., et al. Detection of Sub-TeV Gamma Rays from the Galactic Center Direction by CANGAROO-II.
See KAWACHI, A., et al. A Search for TeV Gamma-Ray Emission from the PSR B1259–63/SS 2883 Binary System with the Cangaroo-II 10 m Telescope.
- NAKAI, HIDEKAZU. Filament Oscillations and Moreton Waves Associated with EIT Waves. *Takenori J. Okamoto, Hidekazu Nakai, Atsushi Keiyama, Noriyuki Narukage, Satoru Ueno, Reizaburo Kitai, Hiroki Kurokawa, & Kazumari Shibata*. 608, 1124 (2004)
- NAKAJIMA, REIKO. See TEGMARK, MAX, et al. The Three-dimensional Power Spectrum of Galaxies from the Sloan Digital Sky Survey.
- NAKAJIMA, TADASHI. Spectral Classification and Effective Temperatures of L and T Dwarfs Based on Near-Infrared Spectra. *Tadashi Nakajima, Takashi Tsuji, & Kenshi Yanagisawa*. 607, 499 (2004)
Dust in the Photospheric Environment. II. Effect on the Near-Infrared Spectra of L and T Dwarfs. *Takashi Tsuji, Tadashi Nakajima, & Kenshi Yanagisawa*. 607, 511 (2004)
- NAKAJIMA, Y. See OJHA, D. K., et al. Deep Near-Infrared Observations of the W3 Main Star-forming Region.
- NAKAMURA, K. Nonlinear Parker Instability with the Effect of Cosmic-Ray Diffusion. *T. Kuwabara, K. Nakamura, & C. M. Ko*. 607, 828 (2004)
- NAKAMURA, MASANORI. Distribution of Faraday Rotation Measure in Jets from Active Galactic Nuclei. II. Prediction from our Sweeping Magnetic Twist Model for the Wiggled Parts of Active Galactic Nucleus Jets and Tails. *Hiromitsu Kigure, Yutaka Uchida, Masanori Nakamura, Shigenobu Hirose, & Robert Cameron*. 608, 119 (2004)
- NAKAMURA, TAKASHI. Peak Energy–Isotropic Energy Relation in the Off-Axis Gamma-Ray Burst Model. *Ryo Yamazaki, Kunihito Ioka, & Takashi Nakamura*. 606, L33 (2004)
A Unified Model of Short and Long Gamma-Ray Bursts, X-Ray-rich Gamma-Ray Bursts, and X-Ray Flashes. *Ryo Yamazaki, Kunihito Ioka, & Takashi Nakamura*. 607, L103 (2004)
- NAKAR, EHUD. Testing the Predictions of the Universal Structured Gamma-Ray Burst Jet Model. *Ehud Nakar, Jonathan Granot, & Dafne Guetta*. 606, L37 (2004)
- NAKASE, T. See TSUCHIYA, K., et al. Detection of Sub-TeV Gamma Rays from the Galactic Center Direction by CANGAROO-II.
See KAWACHI, A., et al. A Search for TeV Gamma-Ray Emission from the PSR B1259–63/SS 2883 Binary System with the Cangaroo-II 10 m Telescope.
- NANDI, A. Evidence of Class Transitions in GRS 1915+105 from Indian X-Ray Astronomy Experiment Data. *Sandip K. Chakrabarti, A. Nandi, Asit Choudhury, & Utpal Chatterjee*. 607, 406 (2004)
- NARANJO, O. See RENGSTORF, A. W., et al. New Quasars Detected via Variability in the QUEST1 Survey.
- NARAYAN, RAMESH. On the Nature of the Variable Infrared Emission from Sagittarius A*. *Feng Yuan, Eliot Quataert, & Ramesh Narayan*. 606, 894 (2004)
Constraining Alternate Models of Black Holes: Type I X-Ray Bursts on Accreting Fermion-Fermion and Boson-Fermion Stars. *Ye-Fei Yuan, Ramesh Narayan, & Martin J. Rees*. 606, 1112 (2004)
- NARUKAGE, NORIYUKI. Filament Oscillations and Moreton Waves Associated with EIT Waves. *Takenori J. Okamoto, Hidekazu Nakai, Atsushi Keiyama, Noriyuki Narukage, Satoru Ueno, Reizaburo Kitai, Hiroki Kurokawa, & Kazumari Shibata*. 608, 1124 (2004)
- NATHER, R. E. See MUKADAM, ANJUM S., et al. Thirty-Five New Pulsating DA White Dwarf Stars.
- NAZÉ, YAEEL. An X-Ray Investigation of the NGC 346 Field in the Small Magellanic Cloud. III. XMM-Newton Data. *Yael Nazé, Jean Manfroid, Ian R. Stevens, Michael F. Corcoran, & Aaron Flores*. 608, 208 (2004)
- NELSON, ALISTAIR H. On Constraining the Smoothed Particle Hydrodynamics Kernel Radius in Galaxy Simulations. *Peter R. Williams, David K. Churches, & Alistair H. Nelson*. 607, 1 (2004)
- NEMETHY, P. See ATKINS, R., et al. TeV Gamma-Ray Survey of the Northern Hemisphere Sky Using the Milagro Observatory.
- NEVALAINEN, J. Nonthermal Hard X-Ray Emission in Galaxy Clusters Observed with the BeppoSAX Phoswich Detector System. *J. Nevalainen, T. Oosterbroek, M. Bonamente, & S. Colafrancesco*. 608, 166 (2004)
- NICHOL, ROBERT C. See TEGMARK, MAX, et al. The Three-dimensional Power Spectrum of Galaxies from the Sloan Digital Sky Survey.
See POPE, ADRIAN C., et al. Cosmological Parameters from Eigenmode Analysis of Sloan Digital Sky Survey Galaxy Redshifts.
See ZEHAVI, IDIT, et al. On Departures from a Power Law in the Galaxy Correlation Function.
- NICHOLS, JOY S. *Far Ultraviolet Spectroscopic Explorer* Observations of Highly Ionized Gas in the Vela Supernova Remnant. *Jonathan D. Slavin, Joy S. Nichols, & William P. Blair*. 606, 900 (2004)
- NISHIDA, D. See TSUCHIYA, K., et al. Detection of Sub-TeV Gamma Rays from the Galactic Center Direction by CANGAROO-II.
See KAWACHI, A., et al. A Search for TeV Gamma-Ray Emission from the PSR B1259–63/SS 2883 Binary System with the Cangaroo-II 10 m Telescope.
- NISHIHARA, KATSUNOBU. Self-Similar Gravitational Collapse of Radiatively Cooling Spheres. *Masakatsu Murakami, Katsunobu Nishihara, & Tomoyuki Hanawa*. 607, 879 (2004)
- NISHIYAMA, K. See TSUCHIYA, K., et al. Detection of Sub-TeV Gamma Rays from the Galactic Center Direction by CANGAROO-II.
See KAWACHI, A., et al. A Search for TeV Gamma-Ray Emission from the PSR B1259–63/SS 2883 Binary System with the Cangaroo-II 10 m Telescope.
- NITTA, ATSUKO. A Helium White Dwarf of Extremely Low Mass. *James Liebert, P. Bergeron, Daniel Eisenstein, H. C. Harris, S. J. Kleinman, Atsuko Nitta, & Jurek Krziesinski*. 606, L147 (2004)

- See KLEINMAN, S. J., et al. A Catalog of Spectroscopically Identified White Dwarf Stars in the First Data Release of the Sloan Digital Sky Survey.
- See MUKADAM, ANJUM S., et al. Thirty-Five New Pulsating DA White Dwarf Stars.
- NODA, S. See BOND, I. A., et al. OGLE 2003-BLG-235/MOA 2003-BLG-53: A Planetary Microlensing Event.
- NOLAN, S. See KOSACK, K., et al. TeV Gamma-Ray Observations of the Galactic Center.
- NOLTA, M. R. First Year Wilkinson Microwave Anisotropy Probe Observations: Dark Energy Induced Correlation with Radio Sources. *M. R. Nolta, E. L. Wright, L. Page, C. L. Bennett, M. Halpern, G. Hinshaw, N. Jarosik, A. Kogut, M. Limon, S. S. Meyer, D. N. Spergel, G. S. Tucker, & E. Wollack.* 608, 10 (2004)
- NOMOTO, K. See BRANCH, DAVID, et al. Direct Analysis of Spectra of the Peculiar Type Ia Supernova 2000cx.
- The Rates of Hypernovae and Gamma-Ray Bursts: Implications for Their Progenitors. *Ph. Podsiadlowski, P. A. Mazzali, K. Nomoto, D. Lazzati, & E. Cappellaro.* 607, L17 (2004)
- NOMOTO, KEN'ICHI. See GERARDY, CHRISTOPHER L., et al. SN 2003du: Signatures of the Circumstellar Environment in a Normal Type Ia Supernova?
- NORD, MICHAEL E. New Nonthermal Filaments at the Galactic Center: Are They Tracing a Globally Ordered Magnetic Field? *T. N. LaRosa, Michael E. Nord, T. Joseph, W. Lazio, & Namir E. Kassim.* 607, 302 (2004)
- NORDLUND, Å. Magnetic Field Generation in Collisionless Shocks: Pattern Growth and Transport. *J. Trier Frederiksen, C. B. Heddal, T. Haugbolle, & Å. Nordlund.* 608, L13 (2004)
- NORMAN, C. A. See WANG, J. X., et al. X-Ray Nondetection of the Ly α Emitters at $z \sim 4.5$.
- NORMAN, COLIN. The X-Ray-derived Cosmological Star Formation History and the Galaxy X-Ray Luminosity Functions in the Chandra Deep Fields North and South. *Colin Norman, Andrew Ptak, Ann Hornschemeier, Guenther Hasinger, Jacqueline Bergeron, Andrea Comastri, Riccardo Giacconi, Roberto Gilli, Karl Glazebrook, Tim Heckman, Lisa Kewley, Piero Ranalli, Piero Rosati, Gyula Szokoly, Paolo Tozzi, JunXian Wang, Wei Zheng, & Andrew Zirm.* 607, 721 (2004)
- NORMAN, MICHAEL L. Formation of Cool Cores in Galaxy Clusters via Hierarchical Mergers. *Patrick M. Moit, Jack O. Burns, Chris Loken, Michael L. Norman, & Greg Bryan.* 606, 635 (2004)
- NORRIS, JOHN E. Oxygen Overabundance in the Extremely Iron-poor Star CS 29498–043. *Wako Aoki, John E. Norris, Sean G. Ryan, Timothy C. Beers, Norbert Christlieb, Stelios Tsangarides, & Hiroyasu Ando.* 608, 971 (2004)
- NOWAK, M. A. See MILLER, J. M., et al. Evidence of Black Hole Spin in GX 339–4: XMM-Newton/EPIC-pn and RXTE Spectroscopy of the Very High State.
- NOYES, D. See ATKINS, R., et al. TeV Gamma-Ray Survey of the Northern Hemisphere Sky Using the Milagro Observatory.
- NULSEN, P. E. J. A Systematic Study of Radio-induced X-Ray Cavities in Clusters, Groups, and Galaxies. *L. Birzan, D. A. Rafferty, B. R. McNamara, M. W. Wise, & P. E. J. Nulsen.* 607, 800 (2004)
- OENLAND, R. See ANTONI, T., et al. Search for Cosmic-Ray Point Sources with KASCADE.
- O'CONNELL, LIAM. See TEGMARK, MAX, et al. The Three-dimensional Power Spectrum of Galaxies from the Sloan Digital Sky Survey.
- OEHLSCHLÄGER, J. See ANTONI, T., et al. Search for Cosmic-Ray Point Sources with KASCADE.
- OEMLER, A. See RENGSTORF, A. W., et al. New Quasars Detected via Variability in the QUEST1 Survey.
- ÖSTLIN, GÖRAN. Extended Tidal Structure in Two Ly α -Emitting Starburst Galaxies. *John M. Cannon, Evan D. Skillman, Daniel Kunth, Claus Leitherer, Miguel Mas-Hesse, Göran Östlin, & Artashes Petrosian.* 608, 768 (2004)
- OFEK, E. O. See LIPKIN, Y. M., et al. The Detailed Optical Light Curve of GRB 030329.
- OGDEN, C. See BARAI, P., et al. Mass and Angular Momentum Transfer in the Massive Algol Binary RY Persei.
- OGLE, P. M. Relativistic O VIII Emission and Ionized Outflow in NGC 4051 Measured with XMM-Newton. *P. M. Ogle, K. O. Mason, M. J. Page, N. J. Salvi, F. A. Cordova, I. M. McHardy, & W. C. Priedhorsky.* 606, 151 (2004)
- OGURA, K. See OJHA, D. K., et al. Deep Near-Infrared Observations of the W3 Main Star-forming Region.
- OGURI, MASAMUNE. Erratum: Arc Statistics in Triaxial Dark Matter Halos: Testing the Collisionless Cold Dark Matter Paradigm (ApJ, 599, 7 [2003]). *Masamune Oguri, Jounghun Lee, & Yasushi Suto.* 608, 1175 (2004) (Orig. paper in 599, 7 (2003))
- OH, S. PENG. Quasar Feedback: The Missing Link in Structure Formation. *Evan Scannapieco & S. Peng Oh.* 608, 62 (2004)
- OHISHI, M. See TSUCHIYA, K., et al. Detection of Sub-TeV Gamma Rays from the Galactic Center Direction by CANGAROO-II.
- See KAWACHI, A., et al. A Search for TeV Gamma-Ray Emission from the PSR B1259–63/SS 2883 Binary System with the Cangaroo-II 10 m Telescope.
- OHTA, YASUHIRO. Cosmological Density Distribution Function from the Ellipsoidal Collapse Model in Real Space. *Yasuhiro Ohta, Issha Kayo, & Atsushi Taruya.* 608, 647 (2004)
- OJHA, D. K. Deep Near-Infrared Observations of the W3 Main Star-forming Region. *D. K. Ojha, M. Tamura, Y. Nakajima, M. Fukagawa, K. Sugitani, C. Nagashima, T. Nagayama, T. Nagata, S. Sato, A. J. Pickles, & K. Ogura.* 608, 797 (2004)
- OKAJIMA, K. See BOND, I. A., et al. OGLE 2003-BLG-235/MOA 2003-BLG-53: A Planetary Microlensing Event.
- OKAMOTO, TAKENORI J. Filament Oscillations and Moreton Waves Associated with EIT Waves. *Takenori J. Okamoto, Hidekazu Nakai, Atsushi Keiyama, Noriyuki Narukage, Satoru Ueno, Reizaburo Kitai, Hiroki Kurokawa, & Kazunari Shibata.* 608, 1124 (2004)
- OKUMURA, K. See TSUCHIYA, K., et al. Detection of Sub-TeV Gamma Rays from the Galactic Center Direction by CANGAROO-II.
- See KAWACHI, A., et al. A Search for TeV Gamma-Ray Emission from the PSR B1259–63/SS 2883 Binary System with the Cangaroo-II 10 m Telescope.
- OLIVER, R. Erratum: Magnetohydrodynamic Waves in Sheared Coronal Arcades (ApJ, 602, 1006 [2004]). *I. Arregui, R. Oliver, & J. L. Ballester.* 607, 1070 (2004) (Orig. paper in 602, 1006 (2004))
- ONG, R. A. See SCALZO, R. A., et al. High-Energy Gamma-Ray Observations of W Comae with the Solar Tower Atmospheric Cerenkov Effect Experiment (STACEE).
- See KOSACK, K., et al. TeV Gamma-Ray Observations of the Galactic Center.
- OOSTERBROEK, T. Nonthermal Hard X-Ray Emission in Galaxy Clusters Observed with the BeppoSAX Phoswich Detector System. *J. Nevalainen, T. Oosterbroek, M. Bonamente, & S. Colafrancesco.* 608, 166 (2004)
- Pronounced Long-Term Flux Variability of the Anomalous X-Ray Pulsar 1E 1048.1–5937. *S. Mereghetti, A. Tiengo, L. Stella, G. L. Israel, N. Rea, S. Zane, & T. Oosterbroek.* 608, 427 (2004)
- ORIGLIA, L. Stellar and Gaseous Abundances in M82. *L. Origlia, P. Ranalli, A. Comastri, & R. Maiolino.* 606, 862 (2004)
- ORIGLIA, LIVIA. Probing the Red Giant Branch Phase Transition: Near-Infrared Photometry of Six Intermediate-Age Large Magellanic Cloud Clusters. *Francesco R. Ferraro, Livia Origlia, Vincenzo Testa, & Claudia Maraston.* 608, 772 (2004)
- OROSZ, J. A. See LIPKIN, Y. M., et al. The Detailed Optical Light Curve of GRB 030329.
- OSTAPCHENKO, S. See ANTONI, T., et al. Search for Cosmic-Ray Point Sources with KASCADE.
- ØSTENSEN, R. See REED, M. D., et al. Discovery of Gravity-Mode Pulsators among Subdwarf B Stars: PG 1716+426, the Class Prototype.
- OSTERMAN, M. A. See BARAI, P., et al. Mass and Angular Momentum Transfer in the Massive Algol Binary RY Persei.
- OSTRIKER, JEREMIAH P. See TEGMARK, MAX, et al. The Three-dimensional Power Spectrum of Galaxies from the Sloan Digital Sky Survey.
- Reasoning From Fossils: Learning From the Local Black Hole Population About the Evolution of Quasars. *Zoltan Haiman, Luca Ciotti, & Jeremiah P. Ostriker.* 606, 763 (2004)
- Giant Arc Statistics in Concord with a Concordance Lambda Cold Dark Matter Universe. *Joachim Wambsganss, Paul Bode, & Jeremiah P. Ostriker.* 606, L93 (2004)
- OSTROWSKI, MICHAŁ. On Multiwavelength Emission of Large-Scale Quasar Jets. *Lukasz Stawarz, Marek Sikora, Michał Ostrowski, & Mitchell C. Begelman.* 608, 95 (2004)
- OTTE, BIRGIT. Discovery of an O VI-emitting Nebula around the Hot White Dwarf KPD 0005+5106. *Birgit Otte, W. Van Dyke Dixon, & Ravi Sankrit.* 606, L143 (2004)

- OUELLETTE, JOHN A. First Evidence of Circumstellar Disks around Blue Straggler Stars. *Orsola De Marco, Thierry Lanz, John A. Ouellette, David Zurek, & Michael M. Shara*. 606, L151 (2004)
- OUYED, RACHID. Ultrarelativistic Magnetohydrodynamic Jets in the Context of Gamma-Ray Bursts. *Christian Fendt & Rachid Ouyed*. 608, 378 (2004)
- OWOCKI, STANLEY P. On the Steady Nature of Line-Driven Disk Winds. *Nicolas A. Pereyra, Stanley P. Owocki, D. John Hillier, & David A. Turnshek*. 608, 454 (2004)
- PACZYŃSKI, B. See BOND, I. A., et al. OGLE 2003-BLG-235/MOA 2003-BLG-53: A Planetary Microlensing Event.
- PAERELS, F. A. Strong, Broad Absorption Feature in the X-Ray Spectrum of the Nearby Neutron Star RX J1605.3+3249. *M. H. van Kerkwijk, D. L. Kaplan, M. Durant, S. R. Kilkarni, & F. Paerels*. 608, 432 (2004)
- PAERELS, FREDERIK. Erratum: Resolving the Effects of Resonant X-Ray Line Scattering in Centaurus X-3 with *Chandra* (ApJ, 582, 959 [2003]). *Patrick S. Wojdowski, Duane A. Liedahl, Masao Sako, Steven M. Kahn, & Frederik Paerels*. 607, 1071 (2004) (Orig. paper in 582, 959 (2003))
- PAGE, DANY. Opaque or Transparent? A Link between Neutrino Optical Depths and the Characteristic Duration of Short Gamma-Ray Bursts. *William H. Lee, Enrico Ramirez-Ruiz, & Dany Page*. 608, L5 (2004)
- PAGE, L. See NOLTA, M. R., et al. First Year Wilkinson Microwave Anisotropy Probe Observations: Dark Energy Induced Correlation with Radio Sources.
- PAGE, M. J. Relativistic O VIII Emission and Ionized Outflow in NGC 4051 Measured with XMM-Newton. *P. M. Ogle, K. O. Mason, M. J. Page, N. J. Salvi, F. A. Cordova, I. M. McHardy, & W. C. Priedhorsky*. 606, 151 (2004)
- PALLASSINI, R. See KOSACK, K., et al. TeV Gamma-Ray Observations of the Galactic Center.
- PALLÉ, P. See TURCK-CHIEZE, S., et al. Erratum: Looking for Gravity-Mode Multiplets with the GOLF Experiment aboard SOHO (ApJ, 604, 455 [2004]).
- PANAGIA, N. Hubble Space Telescope WFPC2 Study of the Trapezium Cluster: The Influence of Circumstellar Disks on the Initial Mass Function. *M. Robberto, J. Song, G. Mora Carrillo, S. V. W. Beckwith, R. B. Makidon, & N. Panagia*. 606, 952 (2004)
- Low-Mass Pre-Main-Sequence Stars in the Large Magellanic Cloud. III. Accretion Rates from Hubble Space Telescope WFPC2 Observations. *M. Romaniello, M. Robberto, & N. Panagia*. 608, 220 (2004)
- PAPADEROS, POLICHRONIS. Chandra Observations of the Three Most Metal Deficient Blue Compact Dwarf Galaxies Known in the Local Universe, SBS 0335–052, SBS 0335–052W, and I Zw 18. *Trinh X. Thuan, Franz E. Bauer, Polichronis Papaderos, & Yuri I. Izotov*. 606, 213 (2004)
- PAPADEVANGELOU, TH. Quiet-Sun X-Rays as Signature for New Particles. *K. Zioutas, K. Dennerl, L. DiLella, D. H. H. Hoffmann, J. Jacoby, & Th. Papaevangelou*. 607, 575 (2004)
- PARASKOV, GEORGI. On the Importance of Gas Flow through Porous Bodies for the Formation of Planetesimals. *Gerhard Wurm, Georgi Paraskov, & Oliver Krauss*. 606, 983 (2004)
- PARK, JIN-YOUNG. Photoionization of Benzene and Small Polycyclic Aromatic Hydrocarbons in Ultraviolet-processed Astrophysical Ices: A Computational Study. *David E. Woon & Jin-Young Park*. 607, 342 (2004)
- PARRY, IAN R. Spectroscopic Gravitational Lensing and Limits on the Dark Matter Substructure in Q2237+0305. *R. Benton Metcalf, Leonidas A. Moustakas, Andrew J. Bunker, & Ian R. Parry*. 607, 43 (2004)
- PATEL, S. K. See KOUVELIOTOU, C., et al. Chandra Observations of the X-Ray Environs of SN 1998bw/GRB 980425.
- PATTERSON, J. R. See TSUCHIYA, K., et al. Detection of Sub-TeV Gamma Rays from the Galactic Center Direction by CANGAROO-II.
- See KAWACHI, A., et al. A Search for TeV Gamma-Ray Emission from the PSR B1259–63/SS 2883 Binary System with the CANGAROO-II 10 m Telescope.
- PAULDRACH, A. W. A. The Physical Properties and Effective Temperature Scale of O-Type Stars as a Function of Metallicity. I. A Sample of 20 Stars in the Magellanic Clouds. *Philip Massey, Fabio Bresolin, Rolf P. Kudritzki, Jouchim Puls, & A. W. A. Pauldrach*. 608, 1001 (2004)
- PAVLOV, GEORGE G. Variations in the Spin Period of the Radio-Quiet Pulsar 1E 1207.4–5209. *Vyacheslav E. Zavlin, George G. Pavlov, & Divas Samwal*. 606, 444 (2004)
- PEARSON, J. C. Detection of Vibrationally Excited Ethyl Cyanide in the Interstellar Medium. *David M. Mehringer, J. C. Pearson, Jocelyn Keene, & T. G. Phillips*. 608, 306 (2004)
- PEI, C.-C. High-Resolution Observations of Methyl Cyanide (CH₃CN) toward the Hot Core Regions W51 e1/e2. *A. Remijan, E. C. Sutton, L. E. Snyder, D. N. Friedel, S.-Y. Liu, & C.-C. Pei*. 606, 917 (2004)
- PELLAT, R. Magnetic Floods: A Scenario for the Variability of the Microquasar GRS 1915+105. *M. Tagger, P. Varnière, J. Rodriguez, & R. Pellat*. 607, 410 (2004)
- PEOPLES, JOHN. See TEGMARK, MAX, et al. The Three-dimensional Power Spectrum of Galaxies from the Sloan Digital Sky Survey.
- PEREYRA, NICOLAS A. On the Steady Nature of Line-Driven Disk Winds. *Nicolas A. Pereyra, Stanley P. Owocki, D. John Hillier, & David A. Turnshek*. 608, 454 (2004)
- PERLMAN, ERIC S. Observations of A4059 with the Chandra, Hubble Space Telescope, and the Very Large Array: Unraveling a Complex Cluster/Radio Galaxy Interaction. *Yun-Young Choi, Christopher S. Reynolds, Sebastian Heinz, Jessica L. Rosenberg, Eric S. Perlman, & Jongmann Yang*. 606, 185 (2004)
- PERNA, ROSALBA. Are Supershells Powered by Multiple Supernovae? Modeling the Radio Pulsar Population Produced by OB Associations. *Rosalba Perna & Bryan M. Gaensler*. 606, 326 (2004)
- PEROLA, G. C. X-Ray Evolution of Active Galactic Nuclei and Hierarchical Galaxy Formation. *N. Menci, F. Fiore, G. C. Perola, & A. Cavaliere*. 606, 58 (2004)
- PERRY, R. BRAD. See LYNCH, DAVID K., et al. 0.8–13 Micron Spectroscopy of V838 Monocerotis and a Model for Its Emission.
- PESTALOZZI, MICHELE R. Erratum: A Circumstellar Disk in a High-Mass Star-forming Region (ApJL, 603, L113 [2003]). *Michele R. Pestalozzi, Moshe Elitzur, John E. Conway, & Roy S. Booth*. 606, L173 (2004) (Orig. paper in 606, L173 (2004))
- PETCU, M. See ANTONI, T., et al. Search for Cosmic-Ray Point Sources with KASCADE.
- PETERS, G. J. See BARAI, P., et al. Mass and Angular Momentum Transfer in the Massive Algol Binary RY Persei.
- PETERSON, B. A. See LIPKIN, Y. M., et al. The Detailed Optical Light Curve of GRB 030329.
- Elucidating the Correlation of the Quasar Fe II/Mg II Ratio with Redshift. *E. M. Vermer & B. A. Peterson*. 608, L85 (2004)
- PETROSIAN, ARTASHES. Extended Tidal Structure in Two Ly α -Emitting Starburst Galaxies. *John M. Cannon, Evan D. Skillman, Daniel Kunth, Claus Leitherer, Miguel Mas-Hesse, Göran Östlin, & Artashes Petrosian*. 608, 768 (2004)
- PETRY, D. See KOSACK, K., et al. TeV Gamma-Ray Observations of the Galactic Center.
- PETTINI, MAX. Optical Selection of Star-Forming Galaxies at Redshifts $1 < z < 3$. *Kurt L. Adelberger, Charles C. Steidel, Alice E. Shapley, Matthew P. Hunt, Dawn K. Erb, Naveen A. Reddy, & Max Pettini*. 607, 226 (2004)
- PEVTSOV, ALEXEI. Statistical Properties of Superpenumbral Whorls around Sunspots. *K. S. Balasubramaniam, Alexei Pevtsov, & Joey Rogers*. 608, 1148 (2004)
- PEVTSOV, ALEXEI A. Photospheric and Coronal Currents in Solar Active Regions. *Andrew B. Burnette, Richard C. Canfield, & Alexei A. Pevtsov*. 606, 565 (2004)
- PHILLIPS, T. G. Detection of D₂H⁺ in the Interstellar Medium. *C. Vastel, T. G. Phillips, & H. Yoshida*. 606, L127 (2004)
- Detection of Vibrationally Excited Ethyl Cyanide in the Interstellar Medium. *David M. Mehringer, J. C. Pearson, Jocelyn Keene, & T. G. Phillips*. 608, 306 (2004)
- PIAN, E. See KOUVELIOTOU, C., et al. Chandra Observations of the X-Ray Environs of SN 1998bw/GRB 980425.
- PIATEK, SLAWOMIR. Core Formation by a Population of Massive Remnants. *David Merritt, Slawomir Piatek, Simon Portegies Zwart, & Marc Hemsendorff*. 608, L25 (2004)
- PICKLES, A. J. See OIHA, D. K., et al. Deep Near-Infrared Observations of the W3 Main Star-forming Region.
- PIER, JEFFREY R. See TEGMARK, MAX, et al. The Three-dimensional Power Spectrum of Galaxies from the Sloan Digital Sky Survey.
- See KLEINMAN, S. J., et al. A Catalog of Spectroscopically Identified White Dwarf Stars in the First Data Release of the Sloan Digital Sky Survey.
- PIETARILA, ANNA. On the Formation of the Resonance Lines of Helium in the Sun. *Anna Pietarila & Philip G. Judge*. 606, 1239 (2004)
- On the Formation of Extreme-Ultraviolet Helium Lines in the Sun: Analysis of SOHO Data. *Philip G. Judge & Anna Pietarila*. 606, 1258 (2004)

- PIETRZYŃSKI, G. See BOND, I. A., et al. OGLE 2003-BLG-235/MOA 2003-BLG-53: A Planetary Microlensing Event.
- PILLINGER, C. T. Astrophysical Significance of Asymptotic Giant Branch Stellar Wind Energies Recorded in Meteoritic SiC Grains. A. B. Verchovsky, I. P. Wright, & C. T. Pillinger. 607, 611 (2004)
- PIRO, L. Absorption in Gamma-Ray Burst Afterglows. G. Stratta, F. Fiore, L. A. Antonelli, L. Piro, & M. De Pasquale. 608, 846 (2004)
- PLIONIS, M. The Clustering of XMM-Newton Hard X-Ray Sources. S. Basilakos, A. Georgakakis, M. Plionis, & I. Georgantopoulos. 607, L79 (2004)
- PODSIADŁOWSKI, PH. The Rates of Hypernovae and Gamma-Ray Bursts: Implications for Their Progenitors. Ph. Podsiadłowski, P. A. Mazzali, K. Nomoto, D. Lazzati, & E. Cappellaro. 607, L17 (2004)
- POEDTS, S. Damping of Coronal Loop Oscillations: Calculation of Resonantly Damped Kink Oscillations of One-Dimensional Nonuniform Loops. T. Van Doorselaere, J. Andries, S. Poedts, & M. Goossens. 606, 1223 (2004)
- POLISHOOK, D. See LIPKIN, Y. M., et al. The Detailed Optical Light Curve of GRB 030329.
- POON, M. Y. A Self-Consistent Study of Triaxial Black Hole Nuclei. M. Y. Poon & David Merritt. 606, 774 (2004)
- Chaotic Loss Cones and Black Hole Fueling. David Merritt & M. Y. Poon. 606, 788 (2004)
- POPE, ADRIAN. See TEGMARK, MAX, et al. The Three-dimensional Power Spectrum of Galaxies from the Sloan Digital Sky Survey.
- POPE, ADRIAN C. Eigenmode Analysis of Galaxy Distributions in Redshift Space. Takahiko Matsubara, Alexander S. Szalay, & Adrian C. Pope. 606, 1 (2004)
- Cosmological Parameters from Eigenmode Analysis of Sloan Digital Sky Survey Galaxy Redshifts. Adrian C. Pope, Takahiko Matsubara, Alexander S. Szalay, Michael R. Blanton, Daniel J. Eisenstein, Jim Gray, Bhuvnesh Jain, Neta A. Bahcall, Jon Brinkmann, Tamas Budavari, Andrew J. Connolly, Joshua A. Frieman, James E. Gunn, David Johnston, Stephen M. Kent, Robert H. Lupton, Avery Meiksin, Robert C. Nichol, Donald P. Schneider, Ryan Scranton, Michael A. Strauss, Istvan Szapudi, Max Tegmark, Michael S. Vogeley, David H. Weinberg, & Idit Zehavi. 607, 655 (2004)
- PORTEGIES ZWART, SIMON. Core Formation by a Population of Massive Remnants. David Merritt, Sławomir Piatek, Simon Portegies Zwart, & Marc Hemsendorff. 608, L25 (2004)
- PORTER, F. S. See GU, M. F., et al. Laboratory Measurements of $3 \rightarrow 2$ X-Ray Emission Lines of Ne-like Ni XIX.
- POTGIETER, M. S. Modulation of Cosmic-Ray Electrons in a Nonspherical and Irregular Heliosphere. S. E. S. Ferreira, M. S. Potgieter, & K. Scherer. 607, 1014 (2004)
- POWER-MOONEY, B. See KOSACK, K., et al. TeV Gamma-Ray Observations of the Galactic Center.
- POZNANSKI, D. See LIPKIN, Y. M., et al. The Detailed Optical Light Curve of GRB 030329.
- POZZETTI, L. Metal Enrichment in Near-Infrared Luminous Galaxies at $z \approx 2$: Signatures of Proto-Elliptical Galaxies? D. F. de Mello, E. Daddi, A. Renzini, A. Cimatti, S. di Serego Alighieri, L. Pozzetti, & G. Zamorani. 608, L29 (2004)
- PRADA, FRANCISCO. The Damping Wing of the Gunn-Peterson Absorption and Ly α Emitters in the Pre-Reionization Era. Nickolay Y. Gnedin & Francisco Prada. 608, L77 (2004)
- PREDMORE, C. READ. Using VLBI to Probe the Orion KL Outflow at AU Scales. Sheperd S. Doeleman, Colin J. Lonsdale, Paul T. Kondratko, & C. Read Predmore. 607, 361 (2004)
- PRICE, P. A. See LIPKIN, Y. M., et al. The Detailed Optical Light Curve of GRB 030329.
- See SODERBERG, A. M., et al. A Redshift Determination for XRF 020903: First Spectroscopic Observations of an X-Ray Flash.
- PRIEDHORSKY, W. C. Relativistic O VIII Emission and Ionized Outflow in NGC 4051 Measured with XMM-Newton. P. M. Ogle, K. O. Mason, M. J. Page, N. J. Salvi, F. A. Cordova, I. M. McHardy, & W. C. Friedhorsky. 606, 151 (2004)
- PRIMACK, JOEL. Flat-cored Dark Matter in Cuspy Clusters of Galaxies. Amr A. El-Zant, Yehuda Hoffman, Joel Primack, Francoise Combes, & Isaac Shlosman. 607, L75 (2004)
- Generating Hot Gas in Simulations of Disk-Galaxy Major Mergers. T. J. Cox, Joel Primack, Patrik Jonsson, & Rachel S. Somerville. 607, L87 (2004)
- PROCHASKA, JASON X. Constraints on Early Nucleosynthesis from the Abundance Pattern of a Damped Ly α System at $z = 2.626$. Yeshe Fenner, Jason X. Prochaska, & Brad K. Gibson. 606, 116 (2004)
- PROTHEROE, R. J. See TSUCHIYA, K., et al. Detection of Sub-TeV Gamma Rays from the Galactic Center Direction by CANGAROO-II.
- See KAWACHI, A., et al. A Search for TeV Gamma-Ray Emission from the PSR B1259–63/SS 2883 Binary System with the Cangaroo-II 10 m Telescope.
- PROVOST, J. See TURCK-CHIEZE, S., et al. Erratum: Looking for Gravity-Mode Multiplets with the GOLF Experiment aboard SOHO (ApJ, 604, 455 [2004]).
- PRUET, JASON. Nucleosynthesis in Outflows from the Inner Regions of Collapsars. Jason Pruet, Todd A. Thompson, & R. D. Hoffman. 606, 1006 (2004)
- PTAK, A. Testing Radiatively Inefficient Accretion Flow Theory: An XMM-Newton Observation of NGC 3998. A. Ptak, Y. Terashima, L. C. Ho, & E. Quataert. 606, 173 (2004)
- The Statistical Properties of Galaxies Containing Ultraluminous X-Ray Objects. A. Ptak & E. Colbert. 606, 291 (2004)
- PTAK, ANDREW. See NORMAN, COLIN, et al. The X-Ray-derived Cosmological Star Formation History and the Galaxy X-Ray Luminosity Functions in the Chandra Deep Fields North and South.
- PUDRITZ, RALPH E. Does Disk Locking Solve the Stellar Angular Momentum Problem? Sean Matt & Ralph E. Pudritz. 607, L43 (2004)
- PUETTER, RICHARD C. See LYNCH, DAVID K., et al. 0.8–13 Micron Spectroscopy of V838 Monocerotis and a Model for Its Emission.
- PULS, JOACHIM. The Physical Properties and Effective Temperature Scale of O-Type Stars as a Function of Metallicity. I. A Sample of 20 Stars in the Magellanic Clouds. Philip Massey, Fabio Bresolin, Rolf P. Kudritzki, Joachim Puls, & A. W. A. Pauldrach. 608, 1001 (2004)
- QIAO, G. J. The Inner Annular Gap for Pulsar Radiation: γ -Ray and Radio Emission. G. J. Qiao, K. J. Lee, H. G. Wang, R. X. Xu, & J. L. Han. 606, L49 (2004)
- QIU, JONG. Near-Infrared Observations at 1.56 Microns of the 2003 October 29 X10 White-Light Flare. Yan Xu, Wenda Cao, Chang Liu, Guo Yang, Jiong Qiu, Ju Jing, Carsten Denker, & Haimin Wang. 607, L131 (2004)
- QUATAERT, E. Testing Radiatively Inefficient Accretion Flow Theory: An XMM-Newton Observation of NGC 3998. A. Ptak, Y. Terashima, L. C. Ho, & E. Quataert. 606, 173 (2004)
- QUATAERT, ELIOT. The Effect of Gravitational-Wave Recoil on the Demography of Massive Black Holes. Piero Madau & Eliot Quataert. 606, L17 (2004)
- On the Nature of the Variable Infrared Emission from Sagittarius A*. Feng Yuan, Eliot Quataert, & Ramesh Narayan. 606, 894 (2004)
- QUIMBY, ROBERT. See GERARDY, CHRISTOPHER L., et al. SN 2003du: Signatures of the Circumstellar Environment in a Normal Type Ia Supernova?
- QUINN, J. See KOSACK, K., et al. TeV Gamma-Ray Observations of the Galactic Center.
- QUINN, M. See KOSACK, K., et al. TeV Gamma-Ray Observations of the Galactic Center.
- QUINN, T. See GOVERNATO, F., et al. The Formation of a Realistic Disk Galaxy in Λ -dominated Cosmologies.
- QUINTANA, H. See MULLIS, C. R., et al. Evolution of the Cluster X-Ray Luminosity Function.
- RADU, A. A. A New Measurement of the Intensities of the Heavy Primary Cosmic-Ray Nuclei around 1 TeV amu^{-1} . F. Gahbauer, G. Hermann, J. R. Hörandel, D. Müller, & A. A. Radu. 607, 333 (2004)
- RAFFERTY, D. A. A Systematic Study of Radio-induced X-Ray Cavities in Clusters, Groups, and Galaxies. L. Birzan, D. A. Rafferty, B. R. McNamara, M. W. Wise, & P. E. J. Nulsen. 607, 800 (2004)
- RAGAN, K. See KOSACK, K., et al. TeV Gamma-Ray Observations of the Galactic Center.
- RAGAN, K. J. See SCALZO, R. A., et al. High-Energy Gamma-Ray Observations of W Comae with the Solar Tower Atmospheric Cerenkov Effect Experiment (STACEE).
- RAHMANI, ADEL. On the Importance of Local-Field Corrections for Polarizable Particles on a Finite Lattice: Application to the Discrete Dipole Approximation. Adel Rahmani, Patrick C. Chaumet, & Garnett W. Bryant. 607, 873 (2004)
- RAMACHANDRAN, R. Effect of Quasi-Orthogonal Emission Modes on the Rotation Measures of Pulsars. R. Ramachandran, D. C. Backer, Joanna M. Rankin, J. M. Weisberg, & K. E. Devine. 606, 1167 (2004)

- RAMIREZ, SOLANGE V. *Chandra* Observation of the Trifid Nebula: X-Ray Emission from the O Star Complex and Actively Forming Pre-Main-Sequence Stars. *Jeonghee Rho, Solange V. Ramirez, Michael F. Corcoran, Kenji Hamaguchi, & Bertrand Lefloch.* 607, 904 (2004)
- RAMIREZ-RUIZ, E. See KOUVELIOTOU, C., et al. *Chandra* Observations of the X-Ray Environs of SN 1998bw/GRB 980425.
- RAMIREZ-RUIZ, ENRICO. Opaque or Transparent? A Link between Neutrino Optical Depths and the Characteristic Duration of Short Gamma-Ray Bursts. *William H. Lee, Enrico Ramirez-Ruiz, & Dany Page.* 608, L5 (2004)
- Compton Echoes from Gamma-Ray Bursts: Unveiling Misaligned Jets in Nearby Type Ib/c Supernovae. *Enrico Ramirez-Ruiz & Piero Madau.* 608, L89 (2004)
- RAMSEY, BRIAN D. *ROSAT* and *ASCA* Observations of the Narrow-Line Seyfert 1 Galaxy RX J0136.9-3510: Blueshifted Fe K α Line and Extended Soft X-Ray Emission. *Kajal K. Ghosh, Douglas A. Swartz, Allyn F. Tennant, Kinwah Wu, & Brian D. Ramsey.* 607, L111 (2004)
- RANALLI, P. Stellar and Gaseous Abundances in M82. *L. Origlia, P. Ranalli, A. Comastri, & R. Maiolino.* 606, 862 (2004)
- RANALLI, PIERO. See NORMAN, COLIN, et al. The X-Ray-derived Cosmological Star Formation History and the Galaxy X-Ray Luminosity Functions in the *Chandra* Deep Fields North and South.
- RAND, R. J. The Pattern Speeds of M51, M83, and NGC 6946 Using CO and the Tremaine-Weinberg Method. *P. Zimmer, R. J. Rand, & J. T. McGraw.* 607, 285 (2004)
- RANKIN, JOANNA M. Effect of Quasi-Orthogonal Emission Modes on the Rotation Measures of Pulsars. *R. Ramachandran, D. C. Backer, Joanna M. Rankin, J. M. Weisberg, & K. E. Devine.* 606, 1167 (2004)
- RANSOM, SCOTT M. Giant Metrewave Radio Telescope Discovery of a Millisecond Pulsar in a Very Eccentric Binary System. *Paulo C. Freire, Yashwant Gupta, Scott M. Ransom, & C. H. Ishwara-Chandra.* 606, L53 (2004)
- RAPPAPORT, S. A. Accretion onto Fast X-Ray Pulsars. *S. A. Rappaport, J. M. Fregeau, & H. Spruit.* 606, 436 (2004)
- RASIA, E. Thermal Conduction in Simulated Galaxy Clusters. *K. Dolag, M. Jubelgas, V. Springel, S. Borgani, & E. Rasia.* 606, L97 (2004)
- RAST, MARK P. The Spectrum of the Solar Supergranulation: Multiple Nonwave Components. *Mark P. Rast, Jason P. Lisle, & Juri Toomre.* 608, 1156 (2004)
- Persistent North-South Alignment of the Solar Supergranulation. *Jason P. Lisle, Mark P. Rast, & Juri Toomre.* 608, 1167 (2004)
- RATRA, BHARAT. Constraints on Scalar-Field Dark Energy from the Cosmic Lens All-Sky Survey Gravitational Lens Statistics. *Kyu-Hyun Chae, Gang Chen, Bharat Ratra, & Dong-Wook Lee.* 607, L71 (2004)
- RATTENBURY, N. J. See BOND, I. A., et al. OGLE 2003-BLG-235/MOA 2003-BLG-53: A Planetary Microlensing Event.
- RATZLAFF, PETER W. Doppler Shifts and Broadening and the Structure of the X-Ray Emission from Algol. *Sun Mi Chung, Jeremy J. Drake, Vinay L. Kashyap, Li Wei Lin, & Peter W. Ratzlaff.* 606, 1184 (2004)
- RAUCH, MICHAEL. The Distribution of Metallicity in the Intergalactic Medium at $z \sim 2.5$: O VI and C IV Absorption in the Spectra of Seven QSOs. *Robert A. Simcoe, Wallace L. W. Sargent, & Michael Rauch.* 606, 92 (2004)
- RAYMOND, J. C. Densities and Velocities in Fast Coronal Mass Ejections: Radiative Pumping of the O VI Doublet. *J. C. Raymond & A. Ciaravella.* 606, L159 (2004)
- RAYMOND, JOHN C. Reprocessing of Soft X-Ray Emission Lines in Black Hole Accretion Disks. *Christopher W. Mauche, Duane A. Liedahl, Benjamin F. Mathiesen, Mario A. Jimenez-Garate, & John C. Raymond.* 606, 168 (2004)
- REA, N. Pronounced Long-Term Flux Variability of the Anomalous X-Ray Pulsar 1E 1048.1-5937. *S. Mereghetti, A. Tiengo, L. Stella, G. L. Israel, N. Rea, S. Zane, & T. Oosterbroek.* 608, 427 (2004)
- REAVES, D. See MUKADAM, ANJUM S., et al. Thirty-Five New Pulsating DA White Dwarf Stars.
- REBEL, H. See ANTONI, T., et al. Search for Cosmic-Ray Point Sources with KASCADE.
- REBILLOT, P. See KOSACK, K., et al. TeV Gamma-Ray Observations of the Galactic Center.
- REBOLO, R. The Quest for Microwave Foreground X. *Angélica de Oliveira-Costa, Max Tegmark, R. D. Davies, Carlos M. Gutiérrez, A. N. Lasenby, R. Rebolo, & R. A. Watson.* 606, L89 (2004)
- REDDY, NAVEEN A. Optical Selection of Star-Forming Galaxies at Redshifts $1 < z < 3$. *Kurt L. Adelberger, Charles C. Steidel, Alice E. Shapley, Matthew P. Hunt, Dawn K. Erb, Naveen A. Reddy, & Max Pettini.* 607, 226 (2004)
- REED, M. D. Discovery of Gravity-Mode Pulsators among Subdwarf B Stars: PG 1716+426, the Class Prototype. *M. D. Reed, E. M. Green, K. Callera, I. R. Seitenzahl, B. A. White, E. A. Hyde, M. K. Giovanni, R. Østensen, A. Bronowska, E. J. Jeffery, O. Cordes, S. Falter, H. Edelmann, S. Dreizler, & S. L. Schuh.* 607, 445 (2004)
- REES, MARTIN J. Constraining Alternate Models of Black Holes: Type I X-Ray Bursts on Accreting Fermion-Fermion and Boson-Fermion Stars. *Ye-Fei Yuan, Ramesh Narayan, & Martin J. Rees.* 606, 1112 (2004)
- REESE, ERIK D. A Deep *Chandra* Observation of the Distant Galaxy Cluster MS 1137.5+6625. *Laura Grego, Jan M. Vrilek, Leon Van Speybroeck, Laurence P. David, William Forman, John E. Carlstrom, Erik D. Reese, & Marshall K. Joy.* 608, 731 (2004)
- REIMER, OLAF. Luminous Infrared Galaxies as Plausible Gamma-Ray Sources for the *Gamma-Ray Large Area Space Telescope* and the Imaging Atmospheric Cerenkov Telescopes. *Diego F. Torres, Olaf Reimer, Eva Domingo-Santamaría, & Seth W. Digel.* 607, L99 (2004)
- REINARD, A. A. Reconnection of Magnetic Field Lines near the Solar Surface during Coronal Mass Ejection Propagation. *A. A. Reinard & L. A. Fisk.* 608, 533 (2004)
- REIPRICH, THOMAS H. *XMM-Newton* Observation of the Merging Galaxy Cluster A1644. *Thomas H. Reiprich, Craig L. Sarazin, Joshua C. Kempner, & Eric Tittle.* 608, 179 (2004)
- REIPURTH, BO. The Irradiated Herbig-Haro Jets near σ Orionis. *Sean M. Andrews, Bo Reipurth, John Bally, & Steve R. Heathcote.* 606, 353 (2004)
- IRAS 05436-0007 and the Emergence of McNeil's Nebula. *Bo Reipurth & Colin Aspin.* 606, L119 (2004)
- The FU Orionis Binary System and the Formation of Close Binaries. *Bo Reipurth & Colin Aspin.* 608, L65 (2004)
- REMIJAN, A. High-Resolution Observations of Methyl Cyanide (CH₃CN) toward the Hot Core Regions W51 e1/e2. *A. Remijan, E. C. Sutton, L. E. Snyder, D. N. Friedel, S.-Y. Liu, & C.-C. Pei.* 606, 917 (2004)
- REMPEL, M. Overshoot at the Base of the Solar Convection Zone: A Semianalytical Approach. *M. Rempel.* 607, 1046 (2004)
- RENDLEMAN, C. A. Direct Numerical Simulations of Type Ia Supernovae Flames. I. The Landau-Darrieus Instability. *J. B. Bell, M. S. Day, C. A. Rendleman, S. E. Woosley, & M. Zingale.* 606, 1029 (2004)
- Direct Numerical Simulations of Type Ia Supernovae Flames. II. The Rayleigh-Taylor Instability. *J. B. Bell, M. S. Day, C. A. Rendleman, S. E. Woosley, & M. Zingale.* 608, 883 (2004)
- RENGSTORF, A. W. New Quasars Detected via Variability in the QUEST1 Survey. *A. W. Rengstorf, S. L. Mufson, C. Abad, B. Adams, P. Andrews, C. Bailyn, C. Baltav, A. Bongiovanni, C. Briceño, G. Bruzual, P. Coppi, F. Della Prugna, W. Emmet, I. Ferrín, F. Fuenmayor, M. Gebhard, J. Hernández, R. K. Honeycutt, G. Magris, J. Musser, O. Naranjo, A. Oemler, P. Rosenzweig, C. N. Sabbage, Ge. Sánchez, Gu. Sánchez, B. Schaefer, H. Schenker, J. Sinnott, J. A. Snyder, S. Sofia, J. Stock, W. van Altena, & A. K. Vivas.* 606, 741 (2004)
- RENZINI, A. Metal Enrichment in Near-Infrared Luminous Galaxies at $z \sim 2$: Signatures of Proto-Elliptical Galaxies? *D. F. de Mello, E. Daddi, A. Renzini, A. Cimatti, S. di Serego Alighieri, L. Pozzetti, & G. Zamorani.* 608, L29 (2004)
- REPHAELI, YOEL. Spectral Analysis of Rossi X-Ray Timing Explorer Observations of A3667. *Yoel Rephaeli & Duane Gruber.* 606, 825 (2004)
- RETTIG, TERRENCE W. Interstellar H₂⁺ Line Absorption toward LkH α 101. *Sean D. Brittain, Theodore Simon, Craig Kulesa, & Terrence W. Rettig.* 606, 911 (2004)
- REYES, LUIS C. Detecting the Attenuation of Blazar Gamma-Ray Emission by Extragalactic Background Light with the *Gamma-Ray Large Area Space Telescope*. *Andrew Chen, Luis C. Reyes, & Steven Ritz.* 608, 686 (2004)
- REYES-RUIZ, M. Constraining the Magnetic Effects on H I Rotation Curves and the Need for Dark Halos. *F. J. Sánchez-Salcedo & M. Reyes-Ruiz.* 607, 247 (2004)
- REYNOLDS, C. S. See MILLER, J. M., et al. Evidence of Black Hole Spin in GX 339-4: *XMM-Newton*/EPIC-pn and *RXTE* Spectroscopy of the Very High State.
- REYNOLDS, CHRISTOPHER S. Observations of A4059 with the *Chandra*, *Hubble Space Telescope*, and the Very Large Array: Unraveling a Complex Cluster/Radio Galaxy Interaction. *Yun-Young Choi, Christopher S.*

- Reynolds, Sebastian Heinz, Jessica L. Rosenberg, Eric S. Perlman, & Jongmann Yang. 606, 185 (2004)
- REYNOLDS, P. T. See KOSACK, K., et al. TeV Gamma-Ray Observations of the Galactic Center.
- RHO, JEONGHEE. *Chandra* Observation of the Trifid Nebula: X-Ray Emission from the O Star Complex and Actively Forming Pre-Main-Sequence Stars. Jeonghee Rho, Solange V. Ramirez, Michael F. Corcoran, Kenji Hamaguchi, & Bertrand Lefloch. 607, 904 (2004)
- RHOADS, J. E. See WANG, J. X., et al. X-Ray Nondetection of the Ly α Emitters at $z \sim 4.5$.
- RICHARD, JOHAN. The Abundance of Low-Luminosity Ly α Emitters at High Redshift. Michael R. Santos, Richard S. Ellis, Jean-Paul Kneib, Johan Richard, & Konrad Kuijken. 606, 683 (2004)
- A Probable $z \sim 7$ Galaxy Strongly Lensed by the Rich Cluster A2218: Exploring the Dark Ages. Jean-Paul Kneib, Richard S. Ellis, Michael R. Santos, & Johan Richard. 607, 697 (2004)
- RICHARD, O. Models for Solar Abundance Stars with Gravitational Settling and Radiative Accelerations: Application to M67 and NGC 188. G. Michaud, O. Richard, J. Richer, & Don A. Vandenberg. 606, 452 (2004)
- RICHER, J. Models for Solar Abundance Stars with Gravitational Settling and Radiative Accelerations: Application to M67 and NGC 188. G. Michaud, O. Richard, J. Richer, & Don A. Vandenberg. 606, 452 (2004)
- RICHMOND, MICHAEL. See TEGMARK, MAX, et al. The Three-dimensional Power Spectrum of Galaxies from the Sloan Digital Sky Survey.
- RIDDLE, R. L. See BARAI, P., et al. Mass and Angular Momentum Transfer in the Massive Algol Binary RY Persei.
- RIEKE, G. H. Missing Massive Stars in Starbursts: Stellar Temperature Diagnostics and the Initial Mass Function. J. R. Rigby & G. H. Rieke. 606, 237 (2004)
- RIESS, ADAM G. Type Ia Supernova Discoveries at $z > 1$ from the *Hubble Space Telescope*: Evidence for Past Deceleration and Constraints on Dark Energy Evolution. Adam G. Riess, Louis-Gregory Strolger, John Tonry, Stefano Casertano, Henry C. Ferguson, Bahram Mobasher, Peter Challis, Alexei V. Filippenko, Saurabh Jha, Weidong Li, Ryan Chornock, Robert P. Kirshner, Bruno Leibundgut, Mark Dickinson, Mario Livio, Mauro Giavalisco, Charles C. Steidel, Txixto Benítez, & Zlatan Tsvetanov. 607, 665 (2004)
- RIGAUT, F. Photometric Variability among the Brightest Asymptotic Giant Branch Stars near the Center of M32. T. J. Davidge & F. Rigaut. 607, L25 (2004)
- RIGBY, J. R. Missing Massive Stars in Starbursts: Stellar Temperature Diagnostics and the Initial Mass Function. J. R. Rigby & G. H. Rieke. 606, 237 (2004)
- RILEY, PETE. *Ulysses* Observations of the Magnetic Connectivity between Coronal Mass Ejections and the Sun. Pete Riley, J. T. Gosling, & N. U. Crooker. 608, 1100 (2004)
- RISSE, A. See ANTONI, T., et al. Search for Cosmic-Ray Point Sources with KASCADE.
- RISSE, M. See ANTONI, T., et al. Search for Cosmic-Ray Point Sources with KASCADE.
- RITZ, STEVEN. Detecting the Attenuation of Blazar Gamma-Ray Emission by Extragalactic Background Light with the *Gamma-Ray Large Area Space Telescope*. Andrew Chen, Luis C. Reyes, & Steven Ritz. 608, 686 (2004)
- RIX, HANS-WALTER. See BELL, ERIC F., et al. Nearly 5000 Distant Early-Type Galaxies in COMBO-17: A Red Sequence and Its Evolution since $z \sim 1$.
- ROBBERTO, M. *Hubble Space Telescope* WFPC2 Study of the Trapezium Cluster: The Influence of Circumstellar Disks on the Initial Mass Function. M. Robberto, J. Song, G. Mora Carrillo, S. V. W. Beckwith, R. B. Makidon, & N. Panagia. 606, 952 (2004)
- Low-Mass Pre-Main-Sequence Stars in the Large Magellanic Cloud. III. Accretion Rates from *Hubble Space Telescope* WFPC2 Observations. M. Romaniello, M. Robberto, & N. Panagia. 608, 220 (2004)
- ROBERTSON, BRANT. Disk Galaxy Formation in a Λ Cold Dark Matter Universe. Brant Robertson, Naoki Yoshida, Volker Springel, & Lars Hernquist. 606, 32 (2004)
- ROBILLLOT, J. M. See TURCK-CHIEZE, S., et al. Erratum: Looking for Gravity-Mode Multiplets with the GOLF Experiment aboard *SOHO* (ApJ, 604, 455 [2004]).
- ROBINSON, E. L. The Discovery of Optical Bursts from MS 1603.6+2600 (UW Coronae Borealis). R. I. Hynes, E. L. Robinson, & E. Jeffery. 608, L101 (2004)
- ROBINSON, RICHARD D. The O VI and C III Lines at 1032 and 977 Å in Hyades F Stars. Erika Böhm-Vitense, Richard D. Robinson, & Kenneth G. Carpenter. 606, 1174 (2004)
- ROCKOSI, CONSTANCE. See TEGMARK, MAX, et al. The Three-dimensional Power Spectrum of Galaxies from the Sloan Digital Sky Survey.
- RODMANN, J. See GRADY, C. A., et al. The Environment of the Optically Brightest Herbig Ae Star, HD 104237.
- RODRIGUEZ, J. Magnetic Floods: A Scenario for the Variability of the Microquasar GRS 1915+105. M. Tagger, P. Varnière, J. Rodriguez, & R. Pellat. 607, 410 (2004)
- ROGERS, JOEY. Statistical Properties of Superpenumbral Whorls around Sunspots. K. S. Balasubramaniam, Alexei Pevtsov, & Joey Rogers. 608, 1148 (2004)
- ROGOSKY, MICHAEL. Using Notch-Filter Masks for High-Contrast Imaging of Extrasolar Planets. John H. Debes, Jian Ge, Marc J. Kuchner, & Michael Rogosky. 608, 1095 (2004)
- ROMANIELLO, M. Low-Mass Pre-Main-Sequence Stars in the Large Magellanic Cloud. III. Accretion Rates from *Hubble Space Telescope* WFPC2 Observations. M. Romaniello, M. Robberto, & N. Panagia. 608, 220 (2004)
- ROSATI, PIERO. See NORMAN, COLIN, et al. The X-Ray-derived Cosmological Star Formation History and the Galaxy X-Ray Luminosity Functions in the *Chandra* Deep Fields North and South.
- ROSE, H. J. See KOSACK, K., et al. TeV Gamma-Ray Observations of the Galactic Center.
- ROSE, JAMES A. The Identification of Blue Horizontal-Branch Stars in the Integrated Spectra of Globular Clusters. Ricardo P. Schiavon, James A. Rose, Stéphane Courteau, & Lauren A. MacArthur. 608, L33 (2004)
- ROSENBERG, JESSICA L. Observations of A4059 with the *Chandra*, *Hubble Space Telescope*, and the Very Large Array: Unraveling a Complex Cluster/Radio Galaxy Interaction. Yun-Young Choi, Christopher S. Reynolds, Sebastian Heinz, Jessica L. Rosenberg, Eric S. Perlman, & Jongmann Yang. 606, 185 (2004)
- ROSENZWEIG, P. See RENGSTORF, A. W., et al. New Quasars Detected via Variability in the QUEST1 Survey.
- ROTH, M. See ANTONI, T., et al. Search for Cosmic-Ray Point Sources with KASCADE.
- ROTHWELL, T. A. GSH 23.0–0.7+117: A Neutral Hydrogen Shell in the Inner Galaxy. J. M. Stil, A. R. Taylor, P. G. Martin, T. A. Rothwell, J. M. Dickey, & N. M. McClure-Griffiths. 608, 297 (2004)
- RUDAK, B. Relativistic Effects and Polarization in Three High-Energy Pulsar Models. J. Dyks, Alice K. Harding, & B. Rudak. 606, 1125 (2004)
- On the Methods of Determining the Radio Emission Geometry in Pulsar Magnetospheres. J. Dyks, B. Rudak, & Alice K. Harding. 607, 939 (2004)
- RUDAK, BRONISLAW. The First Stellar Binary Black Holes: The Strongest Gravitational Wave Burst Sources. Krzysztof Belczynski, Tomasz Bulik, & Bronislaw Rudak. 608, L45 (2004)
- RUDY, RICHARD J. See BRANCH, DAVID, et al. Direct Analysis of Spectra of the Peculiar Type Ia Supernova 2000cx. See LYNCH, DAVID K., et al. 0.8–13 Micron Spectroscopy of V838 Monocerotis and a Model for Its Emission.
- RUSSELL, DAVID G. Morphological Type Dependence in the Tully-Fisher Relationship. David G. Russell. 607, 241 (2004)
- RUSSELL, RAY W. See LYNCH, DAVID K., et al. 0.8–13 Micron Spectroscopy of V838 Monocerotis and a Model for Its Emission.
- RUTLEDGE, ROBERT E. POX 52: A Dwarf Seyfert 1 Galaxy with an Intermediate-Mass Black Hole. Aaron J. Barth, Luis C. Ho, Robert E. Rutledge, & Wallace L. W. Sargent. 607, 90 (2004)
- RYAN, J. M. See ATKINS, R., et al. TeV Gamma-Ray Survey of the Northern Hemisphere Sky Using the Milagro Observatory.
- RYAN, SEAN G. Oxygen Overabundance in the Extremely Iron-poor Star CS 29498–043. Wako Aoki, John E. Norris, Sean G. Ryan, Timothy C. Beers, Norbert Christlieb, Stelios Tsangarides, & Hiroyasu Ando. 608, 971 (2004)
- RYUTOVA, M. Response of the Corona to Magnetic Activity in Underlying Plage Regions. M. Ryutova & R. Shine. 606, 571 (2004)
- SABBEY, C. N. See RENGSTORF, A. W., et al. New Quasars Detected via Variability in the QUEST1 Survey.
- SADAKANE, KOZO. Spectroscopic Studies of Extremely Metal-poor Stars with the Subaru High Dispersion Spectrograph. II. The r -Process Elements, Including Thorium. Satoshi Honda, Wako Aoki, Toshitaka Kajino,

- Hiroyasu Ando, Timothy C. Beers, Hideyuki Izumiura, Kozo Sadukane, & Masahide Takada-Hidai. 607, 474 (2004)
- SAHA, ABHIJIT. The Effect of Metallicity on Cepheid-based Distances. *Shoko Sakai, Laura Ferrarese, Robert C. Kennicutt, Jr., & Abhijit Saha*. 608, 42 (2004)
- SAHA, RAGHVENDRA. Magnetohydrodynamic Models of the Bipolar Knotty Jet in Henize 2-90. *Chin-Fei Lee & Raghvendra Saha*. 606, 483 (2004)
- SAKAI, SHOKO. The Effect of Metallicity on Cepheid-based Distances. *Shoko Sakai, Laura Ferrarese, Robert C. Kennicutt, Jr., & Abhijit Saha*. 608, 42 (2004)
- SAKAMOTO, N. See TSUCHIYA, K., et al. Detection of Sub-TeV Gamma Rays from the Galactic Center Direction by CANGAROO-II.
- SAKO, MASAO. Erratum: Resolving the Effects of Resonant X-Ray Line Scattering in Centaurus X-3 with *Chandra* (ApJ, 582, 959 [2003]). *Patrick S. Wojdowski, Duane A. Liedahl, Masao Sako, Steven M. Kahn, & Frederik Paerels*. 607, 1071 (2004) (Orig. paper in 582, 959 (2003))
- SAKO, T. See BOND, I. A., et al. OGLE 2003-BLG-235/MOA 2003-BLG-53: A Planetary Microlensing Event.
- SAKURAI, TAKASHI. Existence of Nanoparticle Dust Grains in the Inner Solar Corona? *Jagdev Singh, Takashi Sakurai, Kiyoshi Ichimoto, Masaaki Hagino, & Tetsuya T. Yamamoto*. 608, L69 (2004)
- SAKURAZAWA, K. See TSUCHIYA, K., et al. Detection of Sub-TeV Gamma Rays from the Galactic Center Direction by CANGAROO-II.
- See KAWACHI, A., et al. A Search for TeV Gamma-Ray Emission from the PSR B1259–63/SS 2883 Binary System with the Cangaroo-II 10 m Telescope.
- SALIM, JOSÉ M. Nonlinear Electrodynamics and the Surface Redshift of Pulsars. *Herman J. Mosquera Cuesta & José M. Salim*. 608, 925 (2004)
- SALO, HEIKKI. Comparison of Bar Strengths and Fractions of Bars in Active and Nonactive Galaxies. *Eija Laurikainen, Heikki Salo, & Ronald Buta*. 607, 103 (2004)
- SALVI, N. J. Relativistic O VIII Emission and Ionized Outflow in NGC 4051 Measured with *XMM-Newton*. *P. M. Ogle, K. O. Mason, M. J. Page, N. J. Salvi, F. A. Cordova, I. M. McHardy, & W. C. Priedhorsky*. 606, 151 (2004)
- SAMBRUNA, RITA M. A Survey of Extended Radio Jets with *Chandra* and the *Hubble Space Telescope*. *Rita M. Sambruna, Jessica K. Gambill, L. Maraschi, F. Tavecchio, R. Cerutti, C. C. Cheung, C. Megan Urry, & G. Chartas*. 608, 698 (2004)
- SAMUELSON, F. W. See ATKINS, R., et al. TeV Gamma-Ray Survey of the Northern Hemisphere Sky Using the Milagro Observatory.
- SAMYN, MATHIEU. The *r*-Process in Supernovae: Impact of New Microscopic Mass Formulae. *Shinya Wanajo, Stephane Goriely, Mathieu Samyn, & Naoki Itoh*. 606, 1057 (2004)
- SÁNCHEZ, GE. See RENGSTORF, A. W., et al. New Quasars Detected via Variability in the QUEST1 Survey.
- SÁNCHEZ, GU. See RENGSTORF, A. W., et al. New Quasars Detected via Variability in the QUEST1 Survey.
- SÁNCHEZ-SALCEDO, F. J. Constraining the Magnetic Effects on H I Rotation Curves and the Need for Dark Halos. *F. J. Sánchez-Salcedo & M. Reyes-Ruiz*. 607, 247 (2004)
- SANDELL, GOERAN. See STARK, RONALD, et al. Probing the Early Stages of Low-Mass Star Formation in LDN 1689N: Dust and Water in IRAS 16293–2422A, B, and E.
- SANDFORD, S. A. The Mid-Infrared Laboratory Spectra of Naphthalene (C₁₀H₈) in Solid H₂O. *S. A. Sandford, M. P. Bernstein, & L. J. Allamandola*. 607, 346 (2004)
- SANDQUIST, ERIC L. The Luminosity Function and Color-Magnitude Diagram of the Globular Cluster M12. *Jonathan R. Hargis, Eric L. Sandquist, & Michael Bolte*. 608, 243 (2004)
- SANKRIT, RAVI. Discovery of an O VI-emitting Nebula around the Hot White Dwarf KPD 0005+5106. *Birgit Ote, W. Van Dyke Dixon, & Ravi Sankrit*. 606, L143 (2004)
- SANTOS, MICHAEL R. The Abundance of Low-Luminosity Ly α Emitters at High Redshift. *Michael R. Santos, Richard S. Ellis, Jean-Paul Kneib, Johan Richard, & Konrad Kuijken*. 606, 683 (2004)
- A Probable $z \sim 7$ Galaxy Strongly Lensed by the Rich Cluster A2218: Exploring the Dark Ages. *Jean-Paul Kneib, Richard S. Ellis, Michael R. Santos, & Johan Richard*. 607, 697 (2004)
- SANWAL, DIVAS. Variations in the Spin Period of the Radio-Quiet Pulsar 1E 1207.4–5209. *Vyacheslav E. Zavlin, George G. Pavlov, & Divas Sanwal*. 606, 444 (2004)
- SARAJEDINI, ATA. Variations in Star Formation History and the Red Giant Branch Tip. *Michael K. Barker, Ata Sarajedini, & Jason Harris*. 606, 869 (2004)
- SARAZIN, CRAIG L. *XMM-Newton* Observation of the Merging Galaxy Cluster A1644. *Thomas H. Reiprich, Craig L. Sarazin, Joshua C. Kempner, & Eric Tittle*. 608, 179 (2004)
- SARGENT, WALLACE L. W. The Distribution of Metallicity in the Intergalactic Medium at $z \sim 2.5$: O VI and C IV Absorption in the Spectra of Seven QSOs. *Robert A. Simcoe, Wallace L. W. Sargent, & Michael Rauch*. 606, 92 (2004)
- POX 52: A Dwarf Seyfert 1 Galaxy with an Intermediate-Mass Black Hole. *Aaron J. Barth, Luis C. Ho, Robert E. Rutledge, & Wallace L. W. Sargent*. 607, 90 (2004)
- SARI, RE'EM. Planet-Disk Symbiosis. *Re'em Sari & Peter Goldreich*. 606, L77 (2004)
- SASAKI, MISAO. Reconstructing the Primordial Spectrum from WMAP Data by the Cosmic Inversion Method. *Noriyuki Kogo, Makoto Matsumiya, Misao Sasaki, & Jun'ichi Yokoyama*. 607, 32 (2004)
- SASLAW, WILLIAM C. Gravitational Binding, Virialization, and the Peculiar Velocity Distribution of the Galaxies. *Bernard Leong & William C. Saslaw*. 608, 636 (2004)
- SASSELOV, DIMITAR D. Disk Temperature Variations and Effects on the Snow Line in the Presence of Small Protoplanets. *Hannah Jang-Condell & Dimitar D. Sasselov*. 608, 497 (2004)
- SATO, KATSUHIKO. Numerical Study on Propagation of Ultra-High Energy Cosmic Rays in the Galactic Magnetic Field. *Hiroyuki Yoshiguchi, Shigehiro Nagataki, & Katsuhiko Sato*. 607, 840 (2004)
- Magnetorotational Effects on Anisotropic Neutrino Emission and Convection in Core-Collapse Supernovae. *Kei Kotake, Hidetomo Sawai, Shoichi Yamada, & Katsuhiko Sato*. 608, 391 (2004)
- SATO, S. See OJHA, D. K., et al. Deep Near-Infrared Observations of the W3 Main Star-forming Region.
- SAUMON, D. Radiative Transfer in the Refractive Atmospheres of Very Cool White Dwarfs. *P. M. Kowalski & D. Saumon*. 607, 970 (2004)
- SAVAGE, C. Direct Measurement of the $N = 0 \rightarrow 1$ Transition of SH⁺ (X³ Σ^+) by Submillimeter Velocity Modulation Spectroscopy. *C. Savage, A. J. Apponi, & L. M. Ziurys*. 608, L73 (2004)
- SAVIN, DANIEL WOLF. Rate Coefficient for H⁺+H₂(X¹ Σ_g^+ , $\nu = 0$, $J = 0$) \rightarrow H(1s) + H₂⁺ Charge Transfer and Some Cosmological Implications. *Daniel Wolf Savin, Predrag S. Krstić, Zoltán Haiman, & Phillip C. Stancil*. 606, L167 (2004)
- Erratum: Rate Coefficient for H⁺+H₂(X¹ Σ_g^+ , $\nu = 0$, $J = 0$) \rightarrow H(1s) + H₂⁺ Charge Transfer and Some Cosmological Implications (ApJ, 606, L167 [2004]). *Daniel Wolf Savin, Predrag S. Krstić, Zoltán Haiman, & Phillip C. Stancil*. 607, L147 (2004) (Orig. paper in 606, L167 (2004))
- SAWAI, HIDETOMO. Magnetorotational Effects on Anisotropic Neutrino Emission and Convection in Core-Collapse Supernovae. *Kei Kotake, Hidetomo Sawai, Shoichi Yamada, & Katsuhiko Sato*. 608, 391 (2004)
- Numerical Study on the Rotational Collapse of Strongly Magnetized Cores of Massive Stars. *Shoichi Yamada & Hidetomo Sawai*. 608, 907 (2004)
- SCALZO, R. A. High-Energy Gamma-Ray Observations of W Comae with the Solar Tower Atmospheric Cerenkov Effect Experiment (STACEE). *R. A. Scalzo, L. M. Boone, D. Bramel, J. Carson, C. E. Coxault, P. Fortin, G. Gauthier, D. M. Gingrich, D. Hanna, A. Jarvis, J. Kildea, T. Lindner, C. Mueller, R. Mukherjee, R. A. Ong, K. J. Ragan, D. A. Williams, & J. Zweerink*. 607, 778 (2004)
- SCANNAPIECO, EVAN. Quasar Feedback: The Missing Link in Structure Formation. *Evan Scannapieco & S. Peng Oh*. 608, 62 (2004)
- SCHADE, DAVID. Gemini Imaging of QSO Host Galaxies at $z \sim 2$. *Scott M. Croom, David Schade, Brian J. Boyle, Tom Shanks, Lance Miller, & Robert J. Smith*. 606, 126 (2004)
- SCHAEFER, B. See RENGSTORF, A. W., et al. New Quasars Detected via Variability in the QUEST1 Survey.
- SCHAEFER, BRADLEY E. See GERARDY, CHRISTOPHER L., et al. SN 2003du: Signatures of the Circumstellar Environment in a Normal Type Ia Supernova?
- SCHAEFER, FRANK. See STARK, RONALD, et al. Probing the Early Stages of Low-Mass Star Formation in LDN 1689N: Dust and Water in IRAS 16293–2422A, B, and E.
- SCHATZ, G. See ANTONI, T., et al. Search for Cosmic-Ray Point Sources with KASCADE.

- SCHAYE, JOOP. Ultraviolet Line Emission from Metals in the Low-Redshift Intergalactic Medium. *Steven R. Furlanetto, Joop Schaye, Volker Springel, & Lars Hernquist.* 606, 221 (2004)
- SCHENNER, H. See RENGSTORF, A. W., et al. New Quasars Detected via Variability in the QUEST1 Survey.
- SCHERER, K. Modulation of Cosmic-Ray Electrons in a Nonspherical and Irregular Heliosphere. *S. E. S. Ferreira, M. S. Poigietier, & K. Scherer.* 607, 1014 (2004)
- SCHIAVON, RICARDO P. The Identification of Blue Horizontal-Branch Stars in the Integrated Spectra of Globular Clusters. *Ricardo P. Schiavon, James A. Rose, Stéphane Courteau, & Lauren A. MacArthur.* 608, L33 (2004)
- SCHIELER, H. See ANTONI, T., et al. Search for Cosmic-Ray Point Sources with KASCADE.
- SCHILKE, P. Massive Molecular Outflows at High Spatial Resolution. *H. Beuther, P. Schilke, & F. Gueth.* 608, 330 (2004)
- SCHLEGEL, D. J. See KLEINMAN, S. J., et al. A Catalog of Spectroscopically Identified White Dwarf Stars in the First Data Release of the Sloan Digital Sky Survey.
- SCHLEGEL, DAVID. See TEGMARK, MAX, et al. The Three-dimensional Power Spectrum of Galaxies from the Sloan Digital Sky Survey.
See ZEHAVI, IDIT, et al. On Departures from a Power Law in the Galaxy Correlation Function.
- SCHMIDT, B. See LIPKIN, Y. M., et al. The Detailed Optical Light Curve of GRB 030329.
- SCHMIDT, GARY. See KLEINMAN, S. J., et al. A Catalog of Spectroscopically Identified White Dwarf Stars in the First Data Release of the Sloan Digital Sky Survey.
- SCHNEIDER, DONALD P. See TEGMARK, MAX, et al. The Three-dimensional Power Spectrum of Galaxies from the Sloan Digital Sky Survey.
See KLEINMAN, S. J., et al. A Catalog of Spectroscopically Identified White Dwarf Stars in the First Data Release of the Sloan Digital Sky Survey.
See POPE, ADRIAN C., et al. Cosmological Parameters from Eigenmode Analysis of Sloan Digital Sky Survey Galaxy Redshifts.
See ZEHAVI, IDIT, et al. On Departures from a Power Law in the Galaxy Correlation Function.
- SCHNITTMAN, JEREMY D. The Harmonic Structure of High-Frequency Quasi-periodic Oscillations in Accreting Black Holes. *Jeremy D. Schnittman & Edmund Bertschinger.* 606, 1098 (2004)
- SCHOLZ, J. See ANTONI, T., et al. Search for Cosmic-Ray Point Sources with KASCADE.
- SCHROEDTER, M. See KOSACK, K., et al. TeV Gamma-Ray Observations of the Galactic Center.
- SCHÜSSLER, M. On the Origins of Solar Faculae. *C. U. Keller, M. Schüssler, A. Vögler, & V. Zakharov.* 607, L59 (2004)
- SCHUH, S. L. See REED, M. D., et al. Discovery of Gravity-Mode Pulsators among Subdwarf B Stars: PG 1716+426, the Class Prototype.
- SCHURCH, N. J. Iron K α Emission from the Low-Luminosity Active Galaxies M81 and NGC 4579. *G. C. Dewangan, R. E. Griffiths, T. Di Matteo, & N. J. Church.* 607, 788 (2004)
- SCIORTINO, S. See WOLK, S. J., et al. Coronal Variability in the Young Cluster NGC 2516.
A Deep *Chandra* X-Ray Observation of the Rich Young Cluster NGC 6530. I. The X-Ray Source Catalog and the Cluster Population. *F. Damiani, E. Flaccomio, G. Micela, S. Sciortino, F. R. Harnden, Jr., & S. S. Murray.* 608, 781 (2004)
- SCOCIMARRO, ROMAN. See TEGMARK, MAX, et al. The Three-dimensional Power Spectrum of Galaxies from the Sloan Digital Sky Survey.
See ZEHAVI, IDIT, et al. On Departures from a Power Law in the Galaxy Correlation Function.
- SCODINU, ALESSANDRA. Using the Ultraviolet and Visible Spectrum of Comet 122P/de Vico to Identify the Parent Molecule CS₂. *William M. Jackson, Alessandra Scodinu, Dadong Xu, & Anita L. Cochran.* 607, L139 (2004)
- SCOTT, D. Further Multiwavelength Observations of the SSA 22 Ly α -emitting "Blob." *S. C. Chapman, D. Scott, R. A. Windhorst, D. T. Frayer, C. Borys, G. F. Lewis, & R. J. Ivison.* 606, 85 (2004)
- SCRANTON, RYAN. See TEGMARK, MAX, et al. The Three-dimensional Power Spectrum of Galaxies from the Sloan Digital Sky Survey.
See POPE, ADRIAN C., et al. Cosmological Parameters from Eigenmode Analysis of Sloan Digital Sky Survey Galaxy Redshifts.
- SEITENZAHN, I. R. See REED, M. D., et al. Discovery of Gravity-Mode Pulsators among Subdwarf B Stars: PG 1716+426, the Class Prototype.
- SEKANINA, ZDENEK. Fragmentation Hierarchy of Bright Sungrazing Comets and the Birth and Orbital Evolution of the Kreutz System. I. Two-Superfragment Model. *Zdenek Sekanina & Paul W. Chodas.* 607, 620 (2004)
- SEKIGUCHI, T. See BOND, I. A., et al. OGLE 2003-BLG-235/MOA 2003-BLG-53: A Planetary Microlensing Event.
- SEKIMOTO, YUTARO. N₂H⁺ Observations of Molecular Cloud Cores in Taurus. *Ken'ichi Tatematsu, Tomofumi Umemoto, Ryo Kandori, & Yutaro Sekimoto.* 606, 333 (2004)
- SELJAK, UROŠ. See TEGMARK, MAX, et al. The Three-dimensional Power Spectrum of Galaxies from the Sloan Digital Sky Survey.
- SEMBROSKI, G. H. See KOSACK, K., et al. TeV Gamma-Ray Observations of the Galactic Center.
- SEYMOUR, J. L., JR. See BARAI, P., et al. Mass and Angular Momentum Transfer in the Massive Algol Binary RY Persei.
- SHANKS, TOM. Gemini Imaging of QSO Host Galaxies at $z \sim 2$. *Scott M. Croom, David Schade, Brian J. Boyle, Tom Shanks, Lance Miller, & Robert J. Smith.* 606, 126 (2004)
- SHAPLEY, ALICE E. Optical Selection of Star-Forming Galaxies at Redshifts $1 < z < 3$. *Kurt L. Adelberger, Charles C. Steidel, Alice E. Shapley, Matthew P. Hunt, Dawn K. Erb, Naveen A. Reddy, & Max Pettini.* 607, 226 (2004)
- SHAPOSHNIKOV, NICKOLAI. On the Nature of the Flux Variability during an Expansion Stage of a Type I X-Ray Burst: Constraints on Neutron Star Parameters for 4U 1820–30. *Nikolai Shaposhnikov & Lev Titarchuk.* 606, L57 (2004)
- SHARA, MICHAEL M. First Evidence of Circumstellar Disks around Blue Straggler Stars. *Orsola De Marco, Thierry Lanz, John A. Ouellette, David Zurek, & Michael M. Shara.* 606, L151 (2004)
- SHARPEE, BRIAN D. Measurements of the Singly Ionized Oxygen Auroral Doublet Lines $\lambda\lambda 7320, 7330$ Using High-Resolution Sky Spectra. *Brian D. Sharpee, Tom G. Slanger, David L. Huestis, & Philip C. Cosby.* 606, 605 (2004)
- SHAVER, PETER A. Redshifted 21 Centimeter Emission from the Pre-reionization Era. I. Mean Signal and Linear Fluctuations. *Nikolay Y. Gnedin & Peter A. Shaver.* 608, 611 (2004)
- SHAW, S. E. See BIRD, A. J., et al. The First IBIS/ISGRI Soft Gamma-Ray Galactic Plane Survey Catalog.
- SHECTMAN, S. A. See SODERBERG, A. M., et al. A Redshift Determination for XRF 020903: First Spectroscopic Observations of an X-Ray Flash.
- SHELTON, R. L. A Hot Envelope around the Southern Coalsack: X-Ray and Far-Ultraviolet Observations. *B-G Andersson, David C. Knauth, S. L. Snowden, R. L. Shelton, & Peter G. Wamner.* 606, 341 (2004)
- SHETH, JATUSH V. The Size of the Longest Filaments in the Universe. *Somnath Bharadwaj, Suketu P. Bhavsar, & Jatush V. Sheth.* 606, 25 (2004)
- SHETH, RAVI K. See TEGMARK, MAX, et al. The Three-dimensional Power Spectrum of Galaxies from the Sloan Digital Sky Survey.
See ZEHAVI, IDIT, et al. On Departures from a Power Law in the Galaxy Correlation Function.
- SHIBATA, KAZUNARI. General Relativistic Magnetohydrodynamic Simulations of Collapsars. *Yosuke Mizuno, Shoichi Yamada, Shinji Koide, & Kazunari Shibata.* 606, 395 (2004)
Filament Oscillations and Moreton Waves Associated with EIT Waves. *Takenori J. Okamoto, Hidekazu Nakai, Atsushi Keiyama, Noriyuki Narukage, Satoru Ueno, Reizaburo Kitai, Hiroki Kurokawa, & Kazunari Shibata.* 608, 1124 (2004)
- SHINE, R. Response of the Corona to Magnetic Activity in Underlying Plage Regions. *M. Ryutova & R. Shine.* 606, 571 (2004)
- SHLOSMAN, ISAAC. Flat-cored Dark Matter in Cuspy Clusters of Galaxies. *Amr A. El-Zant, Yehuda Hoffman, Joel Primack, Françoise Combes, & Isaac Shlosman.* 607, L75 (2004)
- SHOUP, A. See ATKINS, R., et al. TeV Gamma-Ray Survey of the Northern Hemisphere Sky Using the Milagro Observatory.
- SHULL, J. MICHAEL. O VI, N V, and C IV in the Galactic Halo. II. Velocity-Resolved Observations with the *Hubble Space Telescope* and *Far Ultraviolet Spectroscopic Explorer*. *Remy Indebetouw & J. Michael Shull.* 607, 309 (2004)
- SIEMIGINOWSKA, ANETA. High-Redshift Radio-quiet Quasars: Exploring the Parameter Space of Accretion Models. I. Hot, Semispherical Flow. *Małgorzata A. Sobolewska, Aneta Siemiginowska, & Piotr T. Zycki.* 608, 80 (2004)

- SIKORA, MAREK. On Multiwavelength Emission of Large-Scale Quasar Jets. *Lukasz Stawarz, Marek Sikora, Michał Ostrowski, & Mitchell C. Begelman*. 608, 95 (2004)
- SILVESTRI, NICOLE M. See KLEINMAN, S. J., et al. A Catalog of Spectroscopically Identified White Dwarf Stars in the First Data Release of the Sloan Digital Sky Survey.
- SIMCOE, ROBERT A. The Distribution of Metallicity in the Intergalactic Medium at $z \sim 2.5$: O VI and C IV Absorption in the Spectra of Seven QSOs. *Robert A. Simcoe, Wallace L. W. Sargent, & Michael Rauch*. 606, 92 (2004)
- SIMON, THEODORE. Interstellar H γ Line Absorption toward LkH α 101. *Sean D. Brittain, Theodore Simon, Craig Kulesa, & Terrence W. Rettig*. 606, 911 (2004)
- SINGH, JAGDEV. Existence of Nanoparticle Dust Grains in the Inner Solar Corona? *Jagdev Singh, Takashi Sakurai, Kiyoshi Ichimoto, Masaaki Hagino, & Tetsuya T. Yamamoto*. 608, L69 (2004)
- SINNIS, G. See ATKINS, R., et al. TeV Gamma-Ray Survey of the Northern Hemisphere Sky Using the Milagro Observatory.
- SINNOTT, J. See RENGSTORF, A. W., et al. New Quasars Detected via Variability in the QUEST1 Survey.
- SITKO, MICHAEL L. See LYNCH, DAVID K., et al. 0.8–13 Micron Spectroscopy of V838 Monocerotis and a Model for Its Emission.
- SKILLMAN, EVAN D. The Complex Neutral Gas Dynamics of the Dwarf Starburst Galaxy NGC 625. *John M. Cannon, N. M. McClure-Griffiths, Evan D. Skillman, & Stéphanie Côté*. 607, 274 (2004)
- Extended Tidal Structure in Two Ly α -Emitting Starburst Galaxies. *John M. Cannon, Evan D. Skillman, Daniel Kunth, Claus Leitherer, Miguel Mas-Hesse, Göran Östlin, & Artashes Petrosian*. 608, 768 (2004)
- SKUMANICH, ANDREW. Models for the Rapidly Rotating Be Star Achernar. *Stephen Jackson, Keith B. MacGregor, & Andrew Skumanich*. 606, 1196 (2004)
- SLANGER, TOM G. Measurements of the Singly Ionized Oxygen Auroral Doublet Lines $\lambda\lambda 7320, 7330$ Using High-Resolution Sky Spectra. *Brian D. Sharpee, Tom G. Slanger, David L. Huestis, & Philip C. Cosby*. 606, 605 (2004)
- SLAUGHTER, D. See MUKADAM, ANJUM S., et al. Thirty-Five New Pulsating DA White Dwarf Stars.
- SLAVIN, JONATHAN D. Far Ultraviolet Spectroscopic Explorer Observations of Highly Ionized Gas in the Vela Supernova Remnant. *Jonathan D. Slavin, Joy S. Nichols, & William P. Blair*. 606, 900 (2004)
- SMITH, A. J. See ATKINS, R., et al. TeV Gamma-Ray Survey of the Northern Hemisphere Sky Using the Milagro Observatory.
- SMITH, J. ALLYN. See KLEINMAN, S. J., et al. A Catalog of Spectroscopically Identified White Dwarf Stars in the First Data Release of the Sloan Digital Sky Survey.
- SMITH, ROBERT J. Gemini Imaging of QSO Host Galaxies at $z \sim 2$. *Scott M. Croom, David Schade, Brian J. Boyle, Tom Shanks, Lance Miller, & Robert J. Smith*. 606, 126 (2004)
- SNIGULA, J. The Munich Near-Infrared Cluster Survey (MUNICS). VI. The Stellar Masses of K-Band-Selected Field Galaxies to $z \sim 1.2$. *N. Drory, R. Bender, G. Feulner, U. Hopp, C. Maraston, J. Snigula, & G. J. Hill*. 608, 742 (2004)
- SNOWDEN, S. L. A Hot Envelope around the Southern Coalsack: X-Ray and Far-Ultraviolet Observations. *B-G Andersson, David C. Knauth, S. L. Snowden, R. L. Shelton, & Peter G. Wannier*. 606, 341 (2004)
- SNYDER, J. A. See RENGSTORF, A. W., et al. New Quasars Detected via Variability in the QUEST1 Survey.
- SNYDER, L. E. High-Resolution Observations of Methyl Cyanide (CH $_3$ CN) toward the Hot Core Regions W51 e1/e2. *A. Remijan, E. C. Sutton, L. E. Snyder, D. N. Friedel, S.-Y. Liu, & C.-C. Pei*. 606, 917 (2004)
- SOBOLEWSKA, MALGORZATA A. High-Redshift Radio-quiet Quasars: Exploring the Parameter Space of Accretion Models. I. Hot, Semispherical Flow. *Malgorzata A. Sobolewska, Aneta Siemiginowska, & Piotr T. Zycki*. 608, 80 (2004)
- SODERBERG, A. M. A Redshift Determination for XRF 020903: First Spectroscopic Observations of an X-Ray Flash. *A. M. Soderberg, S. R. Kulkarni, E. Berger, D. B. Fox, P. A. Price, S. A. Yost, M. P. Hunt, D. A. Frail, R. C. Walker, M. Hamuy, S. A. Shectman, J. P. Halpern, & N. Mirabal*. 606, 994 (2004)
- Constraints on Off-Axis Gamma-Ray Burst Jets in Type Ibc Supernovae from Late-Time Radio Observations. *A. M. Soderberg, D. A. Frail, & M. H. Wieringa*. 607, L13 (2004)
- SOFIA, S. See RENGSTORF, A. W., et al. New Quasars Detected via Variability in the QUEST1 Survey.
- SOKER, NOAM. Constraining the X-Ray Luminosities of Asymptotic Giant Branch Stars: TX Camelopardalis and T Cassiopeia. *Joel H. Kastner & Noam Soker*. 608, 978 (2004)
- SOLLINS, PETER K. The Case for Local Collapse in the W51 Star-forming Region. *Peter K. Sollins, Qizhou Zhang, & Paul T. P. Ho*. 606, 943 (2004)
- SOLOMON, PHILIP M. The Star Formation Rate and Dense Molecular Gas in Galaxies. *Yu Gao & Philip M. Solomon*. 606, 271 (2004)
- SOMERVILLE, RACHEL S. Generating Hot Gas in Simulations of Disk-Galaxy Major Mergers. *T. J. Cox, Joel Primack, Patrik Jonsson, & Rachel S. Somerville*. 607, L87 (2004)
- SONG, J. Hubble Space Telescope WFPC2 Study of the Trapezium Cluster: The Influence of Circumstellar Disks on the Initial Mass Function. *M. Robberto, J. Song, G. Mora Carrillo, S. V. W. Beckwith, R. B. Makidon, & N. Panagia*. 606, 952 (2004)
- SONG, L. M. Prompt Ultraviolet-to-Soft X-Ray Emission of Gamma-Ray Bursts: Application to GRB 031203? *Zhuo Li & L. M. Song*. 608, L17 (2004)
- SOSZYŃSKI, I. See BOND, I. A., et al. OGLE 2003-BLG-235/MOA 2003-BLG-53: A Planetary Microlensing Event.
- SPARKS, WILLIAM B. X-Ray and Optical Filaments in M87. *William B. Sparks, Megan Donahue, Andrés Jordán, Laura Ferrarese, & Patrick Côté*. 607, 294 (2004)
- SPIERGL, D. N. See NOLTA, M. R., et al. First Year Wilkinson Microwave Anisotropy Probe Observations: Dark Energy Induced Correlation with Radio Sources.
- SPIERGL, DAVID N. Beyond the Damping Tail: Cross-Correlating the Kinetic Sunyaev-Zel'dovich Effect with Cosmic Shear. *Olivier Doré, Joseph F. Hennawi, & David N. Spergel*. 606, 46 (2004)
- SPINRAD, H. See WANG, J. X., et al. X-Ray Nondetection of the Ly α Emitters at $z \sim 4.5$.
- SPRINGEL, V. Thermal Conduction in Simulated Galaxy Clusters. *K. Dolag, M. Jubelgas, V. Springel, S. Borgani, & E. Rasia*. 606, L97 (2004)
- SPRINGEL, VOLKER. Disk Galaxy Formation in a Λ Cold Dark Matter Universe. *Brant Robertson, Naoki Yoshida, Volker Springel, & Lars Hernquist*. 606, 32 (2004)
- Ultraviolet Line Emission from Metals in the Low-Redshift Intergalactic Medium. *Steven R. Furlanetto, Joop Schaye, Volker Springel, & Lars Hernquist*. 606, 221 (2004)
- SPRUIT, H. Accretion onto Fast X-Ray Pulsars. *S. A. Rappaport, J. M. Fregeau, & H. Spruit*. 606, 436 (2004)
- SPRUIT, HENK C. Local Axisymmetric Diffusive Stability of Weakly Magnetized, Differentially Rotating, Stratified Fluids. *Kristen Menou, Steven A. Balbus, & Henk C. Spruit*. 607, 564 (2004)
- SRIDHARAN, T. K. IRAS 18317–0757: A Cluster of Embedded Massive Stars and Protostars. *T. R. Hunter, Q. Zhang, & T. K. Sridharan*. 606, 929 (2004)
- STADEL, J. See GOVERNATO, F., et al. The Formation of a Realistic Disk Galaxy in Λ -dominated Cosmologies.
- STADEL, JOACHIM. Density Profiles of Cold Dark Matter Substructure: Implications for the Missing-Satellites Problem. *Stelios Kazantzidis, Lucio Mayer, Chiara Mastropietro, Jürg Diemand, Joachim Stadel, & Ben Moore*. 608, 663 (2004)
- STANCIL, PHILLIP C. Rate Coefficient for $H^+ + H_2(X^1\Sigma_g^+, \nu = 0, J = 0) \rightarrow H(1s) + H_2^+$ Charge Transfer and Some Cosmological Implications. *Daniel Wolf Savin, Predrag S. Krstić, Zoltán Haiman, & Phillip C. Stancil*. 606, L167 (2004)
- Erratum: Rate Coefficient for $H^+ + H_2(X^1\Sigma_g^+, \nu = 0, J = 0) \rightarrow H(1s) + H_2^+$ Charge Transfer and Some Cosmological Implications (ApJ, 606, L167 [2004]). *Daniel Wolf Savin, Predrag S. Krstić, Zoltán Haiman, & Phillip C. Stancil*. 607, L147 (2004) (Orig. paper in 606, L167 (2004))
- STANWAY, ELIZABETH R. Hubble Space Telescope Imaging and Keck Spectroscopy of $z \approx 6$ i-Band Dropout Galaxies in the Advanced Camera for Surveys GOODS Fields. *Elizabeth R. Stanway, Andrew J. Bunker, Richard G. McMahon, Richard S. Ellis, Tommaso Treu, & Patrick J. McCarthy*. 607, 704 (2004)
- STARK, RONALD. Probing the Early Stages of Low-Mass Star Formation in LDN 1689N: Dust and Water in IRAS 16293–2422A. *B. and E. Ronald Stark, Goeran Sandell, Sara C. Beck, Michiel R. Hogerheijde, Ewine F. van Dishoeck, Peter van der Wal, Floris F. S. van der Tak, Frank Schaefer, Gary J. Melnick, Matt L. N. Ashby, & Gert de Lange*. 608, 341 (2004)

- STAWARZ, ŁUKASZ. On Multiwavelength Emission of Large-Scale Quasar Jets. *Lukasz Stawarz, Marek Sikora, Michał Ostrowski, & Mitchell C. Begelman*. 608, 95 (2004)
- STEBBINS, ALBERT. See TEGMARK, MAX, et al. The Three-dimensional Power Spectrum of Galaxies from the Sloan Digital Sky Survey.
- STECKLUM, B. See GRADY, C. A., et al. The Environment of the Optically Brightest Herbig Ae Star, HD 104237.
- STEIDEL, CHARLES C. Optical Selection of Star-Forming Galaxies at Redshifts $1 < z < 3$. *Kurt L. Adelberger, Charles C. Steidel, Alice E. Shapley, Matthew P. Hunt, Dawn K. Erb, Naveen A. Reddy, & Max Pettini*. 607, 226 (2004)
- See RIESS, ADAM G., et al. Type Ia Supernova Discoveries at $z > 1$ from the *Hubble Space Telescope*: Evidence for Past Deceleration and Constraints on Dark Energy Evolution.
- STEINACKER, ADRIANE. Type I Planetary Migration with Magnetohydrodynamic Turbulence. *Gregory Laughlin, Adriane Steinacker, & Fred C. Adams*. 608, 489 (2004)
- STELLA, L. Pronounced Long-Term Flux Variability of the Anomalous X-Ray Pulsar 1E 1048.1–5937. *S. Mereghetti, A. Tiengo, L. Stella, G. L. Israel, N. Rea, S. Zane, & T. Oosterbroek*. 608, 427 (2004)
- STEPHEN, J. B. See BIRD, A. J., et al. The First IBIS/ISGRI Soft Gamma-Ray Galactic Plane Survey Catalog.
- STERN, D. See WANG, J. X., et al. X-Ray Nondetection of the Ly α Emitters at $z \sim 4.5$.
- STERNBERG, AMIEL. Photoionized Gas in Dark-Matter Minihalos in the Galactic Halo and Local Group. *Orly Gnat & Amiel Sternberg*. 608, 229 (2004)
- STEVENS, IAN R. An X-Ray Investigation of the NGC 346 Field in the Small Magellanic Cloud. III. *XMM-Newton Data*. *Yuël Nazé, Jean Manfroid, Ian R. Stevens, Michael F. Corcoran, & Aaron Flores*. 608, 208 (2004)
- STILL, J. M. GSH 23.0–0.7+117: A Neutral Hydrogen Shell in the Inner Galaxy. *J. M. Stil, A. R. Taylor, P. G. Martin, T. A. Rothwell, J. M. Dickey, & N. M. McClure-Griffiths*. 608, 297 (2004)
- STILL, M. Fine-Tuning the Accretion Disk Clock in Hercules X-1. *M. Still & P. Boyd*. 606, L135 (2004)
- STOCK, J. See RENGSTORF, A. W., et al. New Quasars Detected via Variability in the QUEST1 Survey.
- STOREY, P. J. Atomic Data and Spectral Line Intensities for Ca VIII. *E. Landi, P. J. Storey, & C. J. Zeppen*. 607, 640 (2004)
- STOTHERS, RICHARD B. Magnetic Influence on the Stability of Luminous Stellar Envelopes. *Richard B. Stothers*. 607, 999 (2004)
- STOUGHTON, CHRISTOPHER. See TEGMARK, MAX, et al. The Three-dimensional Power Spectrum of Galaxies from the Sloan Digital Sky Survey.
- STRATTA, G. Absorption in Gamma-Ray Burst Afterglows. *G. Stratta, F. Fiore, L. A. Antonelli, L. Piro, & M. De Pasquale*. 608, 846 (2004)
- STRAUSS, MICHAEL A. See TEGMARK, MAX, et al. The Three-dimensional Power Spectrum of Galaxies from the Sloan Digital Sky Survey.
- See KLEINMAN, S. J., et al. A Catalog of Spectroscopically Identified White Dwarf Stars in the First Data Release of the Sloan Digital Sky Survey.
- See POPE, ADRIAN C., et al. Cosmological Parameters from Eigenmode Analysis of Sloan Digital Sky Survey Galaxy Redshifts.
- STRICKLAND, DAVID K. A High Spatial Resolution X-Ray and H α Study of Hot Gas in the Halos of Star-Forming Disk Galaxies. II. Quantifying Supernova Feedback. *David K. Strickland, Timothy M. Heckman, Edward J. M. Colbert, Charles G. Hoopes, & Kimberly A. Weaver*. 606, 829 (2004)
- STROHMAYER, TOD E. Detection of Nitrogen and Neon in the X-Ray Spectrum of GP Comae Berenices with *XMM/Newton*. *Tod E. Strohmayer*. 608, L53 (2004)
- STROLGER, LOUIS-GREGORY. See RIESS, ADAM G., et al. Type Ia Supernova Discoveries at $z > 1$ from the *Hubble Space Telescope*: Evidence for Past Deceleration and Constraints on Dark Energy Evolution.
- SUBBARAO, MARK. See ZEHAU, IDIT, et al. On Departures from a Power Law in the Galaxy Correlation Function.
- SUBRAMANIAN, P. Radio Observations of Rapid Acceleration in a Slow Filament Eruption/Fast Coronal Mass Ejection Event. *M. R. Kundu, S. M. White, V. I. Garaimov, P. K. Manoharan, P. Subramanian, S. Ananthakrishnan, & P. Janardhan*. 607, 530 (2004)
- SUGITANI, K. See OIHA, D. K., et al. Deep Near-Infrared Observations of the W3 Main Star-forming Region.
- SULLIVAN, D. J. See BOND, I. A., et al. OGLE 2003-BLG-235/MOA 2003-BLG-53: A Planetary Microlensing Event.
- See MUKADAM, ANJUM S., et al. Thirty-Five New Pulsating DA White Dwarf Stars.
- SULLIVAN, G. W. See ATKINS, R., et al. TeV Gamma-Ray Survey of the Northern Hemisphere Sky Using the Milagro Observatory.
- SUMI, T. See BOND, I. A., et al. OGLE 2003-BLG-235/MOA 2003-BLG-53: A Planetary Microlensing Event.
- SUTO, YASUSHI. Erratum: Arc Statistics in Triaxial Dark Matter Halos: Testing the Collisionless Cold Dark Matter Paradigm (ApJ, 599, 7 [2003]). *Masamune Oguri, Jounghun Lee, & Yasushi Suto*. 608, 1175 (2004) (Orig. paper in 599, 7 (2003))
- SUTTON, E. C. High-Resolution Observations of Methyl Cyanide (CH₃CN) toward the Hot Core Regions W51 e1/e2. *A. Remijan, E. C. Sutton, L. E. Snyder, D. N. Friedel, S.-Y. Liu, & C.-C. Pei*. 606, 917 (2004)
- SUTTON, PATRICK J. Swift Pointing and the Association Between Gamma-Ray Bursts and Gravitational Wave Bursts. *Lee Samuel Finn, Badri Krishnan, & Patrick J. Sutton*. 607, 384 (2004)
- SWABY, D. L. See TSUCHIYA, K., et al. Detection of Sub-TeV Gamma Rays from the Galactic Center Direction by CANGAROO-II.
- See KAWACHI, A., et al. A Search for TeV Gamma-Ray Emission from the PSR B1259–63/SS 2883 Binary System with the Cangaroo-II 10 m Telescope.
- SWARTZ, DOUGLAS A. *ROSAT* and *ASCA* Observations of the Narrow-Line Seyfert 1 Galaxy RX J0136.9–3510: Blueshifted Fe K α Line and Extended Soft X-Ray Emission. *Kajal K. Ghosh, Douglas A. Swartz, Allyn F. Tennant, Kinwah Wu, & Brian D. Ramsey*. 607, L111 (2004)
- WORDY, S. P. See KOSACK, K., et al. TeV Gamma-Ray Observations of the Galactic Center.
- SYSON, A. See KOSACK, K., et al. TeV Gamma-Ray Observations of the Galactic Center.
- SZALAY, ALEXANDER S. Eigenmode Analysis of Galaxy Distributions in Redshift Space. *Takahiko Matsubara, Alexander S. Szalay, & Adrian C. Pope*. 606, 1 (2004)
- See TEGMARK, MAX, et al. The Three-dimensional Power Spectrum of Galaxies from the Sloan Digital Sky Survey.
- See POPE, ADRIAN C., et al. Cosmological Parameters from Eigenmode Analysis of Sloan Digital Sky Survey Galaxy Redshifts.
- See ZEHAU, IDIT, et al. On Departures from a Power Law in the Galaxy Correlation Function.
- SZAPUDI, ISTVÁN. See TEGMARK, MAX, et al. The Three-dimensional Power Spectrum of Galaxies from the Sloan Digital Sky Survey.
- See POPE, ADRIAN C., et al. Cosmological Parameters from Eigenmode Analysis of Sloan Digital Sky Survey Galaxy Redshifts.
- SZEWczyk, O. See BOND, I. A., et al. OGLE 2003-BLG-235/MOA 2003-BLG-53: A Planetary Microlensing Event.
- SZKODY, PAULA. See KLEINMAN, S. J., et al. A Catalog of Spectroscopically Identified White Dwarf Stars in the First Data Release of the Sloan Digital Sky Survey.
- SZOKOLY, GYULA. See NORMAN, COLIN, et al. The X-Ray-derived Cosmological Star Formation History and the Galaxy X-Ray Luminosity Functions in the *Chandra* Deep Fields North and South.
- SZYMAŃSKI, M. K. See BOND, I. A., et al. OGLE 2003-BLG-235/MOA 2003-BLG-53: A Planetary Microlensing Event.
- TACCONI, L. The Faint Counterparts of Max-Planck-Millimeter-Bolometer (MAMBO) Millimeter Sources near the New Technology Telescope Deep Field. *H. Dannerbauer, M. D. Lehnert, D. Lutz, L. Tacconi, F. Bertoldi, C. Carilli, R. Genzel, & K. M. Menten*. 606, 664 (2004)
- TAGGER, M. Magnetic Floods: A Scenario for the Variability of the Microquasar GRS 1915+105. *M. Tagger, P. Varnière, J. Rodriguez, & R. Pellat*. 607, 410 (2004)
- TAJIMA, ASAMI. Ab Initio Direct Trajectory Simulation with Nonadiabatic Transitions of the Dissociative Recombination Reaction $\text{HCNH}^+ + e^- \rightarrow \text{HNC}/\text{HCN} + \text{H}$. *Tetsuya Taketsugu, Asami Tajima, Keisaku Ishii, & Tsuneo Hirano*. 608, 323 (2004)
- TAKABE, HIDEAKI. Propagation and Dynamics of Relativistic Jets. *Akira Mizuta, Shoichi Yamada, & Hideaki Takabe*. 606, 804 (2004)
- TAKADA-HIDAI, MASAHIDE. Spectroscopic Studies of Extremely Metal-poor Stars with the Subaru High Dispersion Spectrograph. II. The *r*-Process Elements, Including Thorium. *Satoshi Honda, Wako Aoki, Toshiyuki Kajino, Hiroyasu Ando, Timothy C. Beers, Hideyuki Izumiura, Kozo Sadakane, & Masahide Takada-Hidai*. 607, 474 (2004)
- TAKETSUGU, TETSUYA. Ab Initio Direct Trajectory Simulation with Nonadiabatic Transitions of the Dissociative Recombination Reaction

- HCNH⁺+e⁻ → HNC/HCN+H. *Tetsuya Taketsugu, Asami Tajima, Keisaku Ishii, & Tsuneo Hirano*. 608, 323 (2004)
- TAKEUCHI, TSUTOMU T. Erratum: The Luminosity Function of IRAS Point Source Catalog Redshift Survey Galaxies (ApJ, 587, L89 [2003]). *Tsutomu T. Takeuchi, Kohji Yoshikawa, & Takako T. Ishii*. 606, L171 (2004) (Orig. paper in 587, L89 (2003))
- TAMURA, M. See OJHA, D. K., et al. Deep Near-Infrared Observations of the W3 Main Star-forming Region.
- TAN, JONATHAN C. X-Ray Scattering Halos from the Galactic Center: Implications for Diffuse Emission around Sagittarius A*. *Jonathan C. Tan & B. T. Draine*. 606, 296 (2004)
- The Becklin-Neugebauer Object as a Runaway B Star. Ejected 4000 Years Ago from the θ^1 Orionis C System. *Jonathan C. Tan*. 607, L47 (2004)
- Supermassive Stars in Quasar Disks. *J. Goodman & Jonathan C. Tan*. 608, 108 (2004)
- TANG, P. S. Nucleation of Quark Matter in Neutron Star Cores. *T. Harko, K. S. Cheng, & P. S. Tang*. 608, 945 (2004)
- TANIMORI, T. See TSUCHIYA, K., et al. Detection of Sub-TeV Gamma Rays from the Galactic Center Direction by CANGAROO-II.
- See KAWACHI, A., et al. A Search for TeV Gamma-Ray Emission from the PSR B1259-63/SS 2883 Binary System with the Cangaroo-II 10 m Telescope.
- TANIMURA, H. See TSUCHIYA, K., et al. Detection of Sub-TeV Gamma Rays from the Galactic Center Direction by CANGAROO-II.
- TARUYA, ATSUSHI. Cosmological Density Distribution Function from the Ellipsoidal Collapse Model in Real Space. *Yasuhiro Ohta, Isshu Kayo, & Atsushi Taruya*. 608, 647 (2004)
- TASITSIOMI, ARGYRO. Density Profiles of Λ CDM Clusters. *Argyro Tasitsiomi, Andrey V. Kravtsov, Stefan Gottloeber, & Anatoly A. Klypin*. 607, 125 (2004)
- TATEMATSU, KEN'ICHI. N₂H⁺ Observations of Molecular Cloud Cores in Taurus. *Ken'ichi Tatematsu, Tomofumi Umemoto, Ryo Kandori, & Yutaro Sekimoto*. 606, 333 (2004)
- TATEYAMA, CLAUDIO E. Structure of OJ 287 from Geodetic Very Long Baseline Array Data. *Claudio E. Tateyama & Kerry A. Kingham*. 608, 149 (2004)
- TAVECCHIO, F. The Gamma-Ray Bright BL Lacertae Object RX J1211+2242. *V. Beckmann, P. Favre, F. Tavecchio, T. Bussien, J. Fliri, & A. Wolter*. 608, 692 (2004)
- A Survey of Extended Radio Jets with Chandra and the Hubble Space Telescope. *Rita M. Sambruna, Jessica K. Gambill, L. Maraschi, F. Tavecchio, R. Cerutti, C. C. Cheung, C. Megan Urry, & G. Chartas*. 608, 698 (2004)
- TAYLOR, A. R. GSH 23.0-0.7+117: A Neutral Hydrogen Shell in the Inner Galaxy. *J. M. Stil, A. R. Taylor, P. G. Martin, T. A. Rothwell, J. M. Dickey, & N. M. McClure-Griffiths*. 608, 297 (2004)
- TEGMARK, MAX. The Three-dimensional Power Spectrum of Galaxies from the Sloan Digital Sky Survey. *Max Tegmark, Michael R. Blanton, Michael A. Strauss, Fiona Hoyle, David Schlegel, Roman Scoccimarro, Michael S. Vogeley, David H. Weinberg, Idit Zehavi, Andreas Berlind, Tamás Budavari, Andrew Connolly, Daniel J. Eisenstein, Douglas Finkbeiner, Joshua A. Frieman, James E. Gunn, Andrew J. S. Hamilton, Lam Hui, Bhuvnesh Jain, David Johnston, Stephen Kent, Huan Lin, Reiko Nakajima, Robert C. Nichol, Jeremiah P. Ostriker, Adrian Pope, Ryan Scranton, Uroš Seljak, Ravi K. Sheth, Albert Stebbins, Alexander S. Szalay, István Szapudi, Licia Verde, Yongzhong Xu, James Annis, Neta A. Bahcall, J. Brinkmann, Scott Burles, Francisco J. Castander, István Csabai, Jon Loveday, Mamoru Doi, Masataka Fukugita, J. Richard Gott III, Greg Hennessy, David W. Hogg, Željko Ivezić, Gillian R. Knapp, Don Q. Lamb, Brian C. Lee, Robert H. Lupton, Timothy A. Mackay, Peter Kunszt, Jeffrey A. Munn, Liam O'Connell, John Peoples, Jeffrey R. Pier, Michael Richmond, Constance Rockosi, Donald P. Schneider, Christopher Stoughton, Douglas L. Tucker, Daniel E. Vanden Berk, Brian Yanny, & Donald G. York*. 606, 702 (2004)
- The Quest for Microwave Foreground X. *Angélica de Oliveira-Costa, Max Tegmark, R. D. Davies, Carlos M. Gutiérrez, A. N. Lasenby, R. Rebolo, & R. A. Watson*. 606, L89 (2004)
- See POPE, ADRIAN C., et al. Cosmological Parameters from Eigenmode Analysis of Sloan Digital Sky Survey Galaxy Redshifts.
- See ZEHAVI, IDIT, et al. On Departures from a Power Law in the Galaxy Correlation Function.
- TENNANT, A. See KOUVELIOTOU, C., et al. Chandra Observations of the X-Ray Environs of SN 1998bw/GRB 980425.
- TENNANT, ALLYN F. ROSAT and ASCA Observations of the Narrow-Line Seyfert 1 Galaxy RX J0136.9-3510: Blueshifted Fe K α Line and Extended Soft X-Ray Emission. *Kajal K. Ghosh, Douglas A. Swartz, Allyn F. Tennant, Kinwah Wu, & Brian D. Ramsey*. 607, L111 (2004)
- TEPLITZ, HARRY I. The Counterpart to MS 1512-cB58 and a Companion Galaxy. *Harry I. Teplitz, Matthew A. Malkan, & Ian S. McLean*. 608, 36 (2004)
- TERASAWA, M. Neutrino Effects before, during, and after the Freezeout of the r -Process. *M. Terasawa, K. Langanke, T. Kajino, G. J. Mathews, & E. Kolbe*. 608, 470 (2004)
- TERASHIMA, Y. Testing Radiatively Inefficient Accretion Flow Theory: An XMM-Newton Observation of NGC 3998. *A. Ptak, Y. Terashima, L. C. Ho, & E. Quataert*. 606, 173 (2004)
- TERRIER, R. See BIRD, A. J., et al. The First IBIS/ISGRI Soft Gamma-Ray Galactic Plane Survey Catalog.
- TESTA, VINCENZO. Probing the Red Giant Branch Phase Transition: Near-Infrared Photometry of Six Intermediate-Age Large Magellanic Cloud Clusters. *Francesco R. Ferraro, Livia Origlia, Vincenzo Testa, & Claudia Maraston*. 608, 772 (2004)
- THIELEMANN, FRIEDRICH-KARL. The Nuclear Reaction Waiting Points: ²²Mg, ²⁶Si, ³⁰S, and ³⁴Ar and Bolometrically Double-peaked Type I X-Ray Bursts. *Jacob Lund Fisker, Friedrich-Karl Thielemann, & Michael Wiescher*. 608, L61 (2004)
- THOMAS, R. C. See BRANCH, DAVID, et al. Direct Analysis of Spectra of the Peculiar Type Ia Supernova 2000cx.
- THOMAS, S. Magnetic-Field Confinement in the Solar Corona. I. Force-free Magnetic Fields. *N. Flyer, B. Fornberg, S. Thomas, & B. C. Low*. 606, 1210 (2004)
- THOMPSON, BARBARA J. A Comparison of CME-Associated Atmospheric Waves Observed in Coronal (Fe XII 195 Å) and Chromospheric (He I 10830 Å) Lines. *Holly R. Gilbert, Thomas E. Holzer, Barbara J. Thompson, & Joan T. Burkepile*. 607, 540 (2004)
- THOMPSON, C. Magnetars: Time Evolution, Superfluid Properties, and the Mechanism of Magnetic Field Decay. *P. Arras, A. Cumming, & C. Thompson*. 608, L49 (2004)
- THOMPSON, R. I. See BOUWENS, R. J., et al. Star Formation at $z \sim 6$: The Hubble Ultra Deep Parallel Fields.
- THOMPSON, S. E. See MUKADAM, ANJUM S., et al. Thirty-Five New Pulsating DA White Dwarf Stars.
- THOMPSON, TODD A. Nucleosynthesis in Outflows from the Inner Regions of Collapsars. *Jason Pruet, Todd A. Thompson, & R. D. Hoffman*. 606, 1006 (2004)
- THORNTON, G. See TSUCHIYA, K., et al. Detection of Sub-TeV Gamma Rays from the Galactic Center Direction by CANGAROO-II.
- THOUW, T. See ANTONI, T., et al. Search for Cosmic-Ray Point Sources with KASCADE.
- THUAN, TRINH X. Chandra Observations of the Three Most Metal Deficient Blue Compact Dwarf Galaxies Known in the Local Universe. *SBS 0335-052, SBS 0335-052W, and I Zw 18. Trinh X. Thuan, Franz E. Bauer, Polichronis Papaderos, & Yuri I. Izotov*. 606, 213 (2004)
- The Radio Continuum of the Metal-deficient Blue Compact Dwarf Galaxy SBS 0335-052. *Leslie K. Hunt, Kristy K. Dyer, Trinh X. Thuan, & James S. Ulvestad*. 606, 853 (2004)
- TIENS, A. G. G. M. Catching Some Sun: Probing the Solar Wind with Cometary X-Ray and Far-Ultraviolet Emission. *D. Bodevits, Z. Juhász, R. Hoekstra, & A. G. G. M. Tielens*. 606, L81 (2004)
- TIENGO, A. Pronounced Long-Term Flux Variability of the Anomalous X-Ray Pulsar 1E 1048.1-5937. *S. Mereghetti, A. Tiengo, L. Stella, G. L. Israel, N. Rea, S. Zane, & T. Oosterbroek*. 608, 427 (2004)
- TITARCHUK, LEV. On the Nature of the Flux Variability during an Expansion Stage of a Type I X-Ray Burst: Constraints on Neutron Star Parameters for 4U 1820-30. *Nikolai Shaposhnikov & Lev Titarchuk*. 606, L57 (2004)
- TITLEY, ERIC. XMM-Newton Observation of the Merging Galaxy Cluster A1644. *Thomas H. Reiprich, Craig L. Sarazin, Joshua C. Kempner, & Eric Tittley*. 608, 179 (2004)
- TOKANAI, F. See TSUCHIYA, K., et al. Detection of Sub-TeV Gamma Rays from the Galactic Center Direction by CANGAROO-II.
- See KAWACHI, A., et al. A Search for TeV Gamma-Ray Emission from the PSR B1259-63/SS 2883 Binary System with the Cangaroo-II 10 m Telescope.
- TOKUNAGA, ALAN. See LYNCH, DAVID K., et al. 0.8-13 Micron Spectroscopy of V838 Monocerotis and a Model for Its Emission.

- TONRY, JOHN. See RIESS, ADAM G., et al. Type Ia Supernova Discoveries at $z > 1$ from the *Hubble Space Telescope*: Evidence for Past Deceleration and Constraints on Dark Energy Evolution.
- TOOMRE, JURI. The Spectrum of the Solar Supergranulation: Multiple Nonwave Components. *Mark P. Rast, Jason P. Lisle, & Juri Toomre*. 608, 1156 (2004)
- Persistent North-South Alignment of the Solar Supergranulation. *Jason P. Lisle, Mark P. Rast, & Juri Toomre*. 608, 1167 (2004)
- TORMEN, G. See MURANTE, G., et al. The Diffuse Light in Simulations of Galaxy Clusters.
- TORNATORE, L. See MURANTE, G., et al. The Diffuse Light in Simulations of Galaxy Clusters.
- TORRES, CARLOS A. O. See GRADY, C. A., et al. The Environment of the Optically Brightest Herbig Ae Star, HD 104237.
- TORRES, DIEGO F. Luminous Infrared Galaxies as Plausible Gamma-Ray Sources for the *Gamma-Ray Large Area Space Telescope* and the Imaging Atmospheric Cerenkov Telescopes. *Diego F. Torres, Olaf Reimer, Eva Domingo-Santamaría, & Seth W. Digel*. 607, 199 (2004)
- TOWNSLEY, DEAN M. Seismology of the Accreting White Dwarf in GW Librac. *Dean M. Townsley, Phil Arras, & Lars Bildsten*. 608, L105 (2004)
- TOZZI, P. See MURANTE, G., et al. The Diffuse Light in Simulations of Galaxy Clusters.
- TOZZI, PAOLO. See NORMAN, COLIN, et al. The X-Ray-derived Cosmological Star Formation History and the Galaxy X-Ray Luminosity Functions in the *Chandra* Deep Fields North and South.
- TREU, TOMMASO. *Hubble Space Telescope* Imaging and Keck Spectroscopy of $z \approx 6$ *i*-Band Dropout Galaxies in the Advanced Camera for Surveys GOODS Fields. *Elizabeth R. Stanway, Andrew J. Bunker, Richard G. McMahon, Richard S. Ellis, Tommaso Treu, & Patrick J. McCarthy*. 607, 704 (2004)
- TRISTRAM, P. J. See BOND, I. A., et al. OGLE 2003-BLG-235/MOA 2003-BLG-53: A Planetary Microlensing Event.
- TRUNDLE, C. Terminal Velocities of Luminous, Early-Type Small Magellanic Cloud Stars. *C. J. Evans, D. J. Lennon, C. Trundle, S. R. Heap, & D. J. Lindler*. 607, 451 (2004)
- TSANGARIDES, STELIOS. Oxygen Overabundance in the Extremely Iron-poor Star CS 29498–043. *Wako Aoki, John E. Norris, Sean G. Ryan, Timothy C. Beers, Norbert Christlieb, Stelios Tsangarides, & Hiroyasu Ando*. 608, 971 (2004)
- TSENG, YAO-HUAN. Effects of Preheated Clusters on the Cosmic Microwave Background Spectrum. *Kai-Yang Lin, Tuk-Pong Woo, Yao-Huan Tseng, Lihwai Lin, & Tzihong Chiueh*. 608, L1 (2004)
- TSUCHIYA, K. Detection of Sub-TeV Gamma Rays from the Galactic Center Direction by CANGAROO-II. *K. Tsuchiya, R. Enomoto, L. T. Ksenofontov, M. Mori, T. Naito, A. Asahara, G. V. Bicknell, R. W. Clay, Y. Doi, P. G. Edwards, S. Gunji, S. Hara, T. Hara, T. Hattori, Sei. Hayashi, C. Itoh, S. Kabuki, F. Kajino, H. Katagiri, A. Kawachi, T. Kifune, H. Kubo, T. Kurihara, R. Kurosaka, J. Kushida, Y. Matsubara, Y. Miyashita, Y. Mizumoto, H. Moro, H. Muraishi, Y. Muraki, T. Nakase, D. Nishida, K. Nishijima, M. Ohishi, K. Okumura, J. R. Patterson, R. J. Protheroe, N. Sakamoto, K. Sakurazawa, D. L. Swaby, T. Tanimori, H. Tanimura, G. Thornton, F. Tokanaï, T. Uchida, S. Watanabe, T. Yamaoka, S. Yanagita, T. Yoshida, & T. Yoshikoshi*. 606, L115 (2004)
- See KAWACHI, A., et al. A Search for TeV Gamma-Ray Emission from the PSR B1259–63/SS 2883 Binary System with the Cangaroo-II 10 m Telescope.
- TSUJI, TAKASHI. Spectral Classification and Effective Temperatures of L and T Dwarfs Based on Near-Infrared Spectra. *Tadashi Nakajima, Takashi Tsuji, & Kenshi Yanagisawa*. 607, 499 (2004)
- Dust in the Photospheric Environment. II. Effect on the Near-Infrared Spectra of L and T Dwarfs. *Takashi Tsuji, Tadashi Nakajima, & Kenshi Yanagisawa*. 607, 511 (2004)
- TSUNEMI, HIROSHI. An X-Ray Measurement of Titan's Atmospheric Extent from Its Transit of the Crab Nebula. *Koji Mori, Hiroshi Tsunemi, Haruyoshi Katayama, David N. Burrows, Gordon P. Garmire, & Albert E. Metzger*. 607, 1065 (2004)
- TSUNOO, H. See KAWACHI, A., et al. A Search for TeV Gamma-Ray Emission from the PSR B1259–63/SS 2883 Binary System with the Cangaroo-II 10 m Telescope.
- TSVETANOV, ZLATAN. See RIESS, ADAM G., et al. Type Ia Supernova Discoveries at $z > 1$ from the *Hubble Space Telescope*: Evidence for Past Deceleration and Constraints on Dark Energy Evolution.
- TUCKER, DOUGLAS L. See TEGMARK, MAX, et al. The Three-dimensional Power Spectrum of Galaxies from the Sloan Digital Sky Survey.
- TUCKER, G. S. See NOLTA, M. R., et al. First Year Wilkinson Microwave Anisotropy Probe Observations: Dark Energy Induced Correlation with Radio Sources.
- TUCKER, W. Direct Constraints on the Dark Matter Self-Interaction Cross Section from the Merging Galaxy Cluster 1E 0657–56. *M. Markevitch, A. H. Gonzalez, D. Clowe, A. Vikhlinin, W. Forman, C. Jones, S. Murray, & W. Tucker*. 606, 819 (2004)
- TURCK-CHIEZE, S. Erratum: Looking for Gravity-Mode Multiplets with the GOLF Experiment aboard *SOHO* (ApJ, 604, 455 [2004]). *S. Turck-Chièze, R. A. García, S. Couvidat, R. K. Ulrich, L. Bertello, F. Varadi, A. G. Kosovichev, A. H. Gabriel, G. Berthomieu, A. S. Brun, I. Lopes, P. Pallé, J. Provost, J. M. Robillot, & T. Roca Cortés*. 608, 610 (2004) (Orig. paper in 604, 455 (2004))
- TURNSEK, DAVID A. On the Steady Nature of Line-Driven Disk Winds. *Nicolas A. Pereyra, Stanley P. Owocki, D. John Hillier, & David A. Turnsek*. 608, 454 (2004)
- UBERTINI, P. See BIRD, A. J., et al. The First IBIS/ISGRI Soft Gamma-Ray Galactic Plane Survey Catalog.
- UCHIDA, T. See TSUCHIYA, K., et al. Detection of Sub-TeV Gamma Rays from the Galactic Center Direction by CANGAROO-II.
- See KAWACHI, A., et al. A Search for TeV Gamma-Ray Emission from the PSR B1259–63/SS 2883 Binary System with the Cangaroo-II 10 m Telescope.
- UCHIDA, YUTAKA. Distribution of Faraday Rotation Measure in Jets from Active Galactic Nuclei. II. Prediction from our Sweeping Magnetic Twist Model for the Wiggled Parts of Active Galactic Nucleus Jets and Tails. *Hiromitsu Kigure, Yutaka Uchida, Masanori Nakamura, Shigenobu Hirose, & Robert Cameron*. 608, 119 (2004)
- UDALSKI, A. See BOND, I. A., et al. OGLE 2003-BLG-235/MOA 2003-BLG-53: A Planetary Microlensing Event.
- UENO, SATORU. Filament Oscillations and Moreton Waves Associated with EIT Waves. *Takenori J. Okamoto, Hidekazu Nakai, Atsushi Keiyama, Noriyuki Narukage, Satoru Ueno, Reizaburo Kitai, Hiroki Kurokawa, & Kazumari Shibata*. 608, 1124 (2004)
- UITENBROEK, H. Promises and Pitfalls of Solar H α Zeeman Spectropolarimetry. *K. S. Balasubramaniam, E. B. Christopoulou, & H. Uitenbroek*. 606, 1233 (2004)
- ULRICH, H. See ANTONI, T., et al. Search for Cosmic-Ray Point Sources with KASCADE.
- ULRICH, R. K. See TURCK-CHIEZE, S., et al. Erratum: Looking for Gravity-Mode Multiplets with the GOLF Experiment aboard *SOHO* (ApJ, 604, 455 [2004]).
- ULVESTAD, JAMES S. The Radio Continuum of the Metal-deficient Blue Compact Dwarf Galaxy SBS 0335–052. *Leslie K. Hunt, Kristy K. Dyer, Trinh X. Thuan, & James S. Ulvestad*. 606, 853 (2004)
- UMEMOTO, TOMOFUMI. N $_2$ H $^+$ Observations of Molecular Cloud Cores in Taurus. *Ken'ichi Tatematsu, Tomofumi Umemoto, Ryo Kandori, & Yutaro Sekimoto*. 606, 333 (2004)
- UOMOTO, ALAN. See KLEINMAN, S. J., et al. A Catalog of Spectroscopically Identified White Dwarf Stars in the First Data Release of the Sloan Digital Sky Survey.
- See ZEHAVI, IDIT, et al. On Departures from a Power Law in the Galaxy Correlation Function.
- URRY, C. MEGAN. A Survey of Extended Radio Jets with *Chandra* and the *Hubble Space Telescope*. *Rita M. Sambruna, Jessica K. Gambill, L. Maraschi, F. Tavecchio, R. Cerutti, C. C. Cheung, C. Megan Urry, & G. Chartas*. 608, 698 (2004)
- VALENTI, JEFF A. The Far-Ultraviolet Spectra of TW Hydrae. II. Models of H $_2$ Fluorescence in a Disk. *Gregory J. Herczeg, Brian E. Wood, Jeffrey L. Linsky, Jeff A. Valenti, & Christopher M. Johns-Krull*. 607, 369 (2004)
- VAN ALTEN, W. See RENGSTORF, A. W., et al. New Quasars Detected via Variability in the QUESTI Survey.
- VAN BUREN, J. See ANTONI, T., et al. Search for Cosmic-Ray Point Sources with KASCADE.
- VANDENBERG, DON A. Models for Solar Abundance Stars with Gravitational Settling and Radiative Accelerations: Application to M67 and NGC 188. *G. Michaud, O. Richard, J. Richer, & Don A. Vandenberg*. 606, 452 (2004)
- VANDEN BERK, DANIEL E. See TEGMARK, MAX, et al. The Three-dimensional Power Spectrum of Galaxies from the Sloan Digital Sky Survey.

- VAN DER KLIS, M. See MILLER, J. M., et al. Evidence of Black Hole Spin in GX 339–4: *XMM-Newton*/EPIC-pn and *RXTE* Spectroscopy of the Very High State.
- VAN DER TAK, FLORIS F. S. See STARK, RONALD, et al. Probing the Early Stages of Low-Mass Star Formation in LDN 1689N: Dust and Water in IRAS 16293–2422A, B, and E.
- VAN DER WAL, PETER. See STARK, RONALD, et al. Probing the Early Stages of Low-Mass Star Formation in LDN 1689N: Dust and Water in IRAS 16293–2422A, B, and E.
- VAN DISHOECK, EWINE F. See STARK, RONALD, et al. Probing the Early Stages of Low-Mass Star Formation in LDN 1689N: Dust and Water in IRAS 16293–2422A, B, and E.
- VAN DOKKUM, P. See BOUWENS, R. J., et al. Star Formation at $z \sim 6$: The Hubble Ultra Deep Parallel Fields.
- VAN DOKKUM, P. G. See LIPKIN, Y. M., et al. The Detailed Optical Light Curve of GRB 030329.
- The Supernova Associated with GRB 031203: SMARTS Optical-Infrared Light Curves from 0.2 to 92 Days. *B. E. Cobb, C. D. Bailyn, P. G. van Dokkum, M. M. Buxton, & J. S. Bloom.* 608, L93 (2004)
- VAN DOORSSELAERE, T. Damping of Coronal Loop Oscillations: Calculation of Resonantly Damped Kink Oscillations of One-Dimensional Nonuniform Loops. *T. Van Doorselaere, J. Andries, S. Poedts, & M. Goossens.* 606, 1223 (2004)
- VAN KERKWIJK, M. H. A Strong, Broad Absorption Feature in the X-Ray Spectrum of the Nearby Neutron Star RX J1605.3+3249. *M. H. van Kerkwijk, D. L. Kaplan, M. Durant, S. R. Kulkarni, & F. Paerels.* 608, 432 (2004)
- VAN SPEYBROECK, LEON. A Deep *Chandra* Observation of the Distant Galaxy Cluster MS 1137.5+6625. *Laura Grego, Jan M. Vrtilek, Leon Van Speybroeck, Laurence P. David, William Forman, John E. Carlstrom, Erik D. Reese, & Marshall K. Joy.* 608, 731 (2004)
- VARADI, F. See TURCK-CHIEZE, S., et al. Erratum: Looking for Gravity-Mode Multiplets with the GOLF Experiment aboard *SOHO* (ApJ, 604, 455 [2004]).
- VARDANYAN, A. See ANTONI, T., et al. Search for Cosmic-Ray Point Sources with KASCADE.
- VARNIERE, P. Magnetic Floods: A Scenario for the Variability of the Microquasar GRS 1915+105. *M. Tagger, P. Varniere, J. Rodriguez, & R. Pellat.* 607, 410 (2004)
- VÁSQUEZ, ALBERTO M. Electrostatic Decay of Beam-generated Plasma Turbulence. *Alberto M. Vázquez & Daniel O. Gómez.* 607, 1024 (2004)
- VASSILIEV, V. V. See KOSACK, K., et al. TeV Gamma-Ray Observations of the Galactic Center.
- VASTEL, C. Detection of D_2H^+ in the Interstellar Medium. *C. Vastel, T. G. Phillips, & H. Yoshida.* 606, L127 (2004)
- VECCHIATO, A. A General Relativistic Model of Light Propagation in the Gravitational Field of the Solar System: The Static Case. *F. de Felice, M. T. Crosta, A. Vecchiato, M. G. Lattanzi, & B. Bucciarelli.* 607, 580 (2004)
- VENTURINI, CATHERINE C. See LYNCH, DAVID K., et al. 0.8–13 Micron Spectroscopy of V838 Monocerotis and a Model for Its Emission.
- VERCHOVSKY, A. B. Astrophysical Significance of Asymptotic Giant Branch Stellar Wind Energies Recorded in Meteoritic SiC Grains. *A. B. Verchovsky, I. P. Wright, & C. T. Pillinger.* 607, 611 (2004)
- VERDE, LUCIA. See TEGMARK, MAX, et al. The Three-dimensional Power Spectrum of Galaxies from the Sloan Digital Sky Survey.
- VERNER, E. M. Elucidating the Correlation of the Quasar Fe II/Mg II Ratio with Redshift. *E. M. Verner & B. A. Peterson.* 608, L85 (2004)
- VIEIRA, G. L. See GRADY, C. A., et al. The Environment of the Optically Brightest Herbig Ae Star, HD 104237.
- VIH, UMA P. Discovery of Blue Luminescence in the Red Rectangle: Possible Fluorescence from Neutral Polycyclic Aromatic Hydrocarbon Molecules? *Uma P. Vih, Adolf N. Witt, & Karl D. Gordon.* 606, L65 (2004)
- VIKHLININ, A. Direct Constraints on the Dark Matter Self-Interaction Cross Section from the Merging Galaxy Cluster 1E 0657–56. *M. Markevitch, A. H. Gonzalez, D. Clowe, A. Vikhlinin, W. Forman, C. Jones, S. Murray, & W. Tucker.* 606, 819 (2004)
- See MULLIS, C. R., et al. Evolution of the Cluster X-Ray Luminosity Function.
- VITTORIO, NICOLA. Asymmetries in the Local Curvature of the Wilkinson Microwave Anisotropy Probe Data. *Frøde K. Hansen, Paolo Cabella, Domenico Marinucci, & Nicola Vittorio.* 607, L67 (2004)
- VIVAS, A. K. See RENGSTORF, A. W., et al. New Quasars Detected via Variability in the QUEST1 Survey.
- See BRICEÑO, C., et al. McNeil's Nebula in Orion: The Outburst History.
- VLAHOS, LOUKAS. Particle Acceleration in an Evolving Network of Unstable Current Sheets. *Loukas Vlahos, Heinz Isliker, & Fabio Lepreti.* 608, 540 (2004)
- VÖGLER, A. On the Origins of Solar Faculae. *C. U. Keller, M. Schüssler, A. Vögler, & V. Zakharov.* 607, L59 (2004)
- VOGELER, MICHAEL S. See TEGMARK, MAX, et al. The Three-dimensional Power Spectrum of Galaxies from the Sloan Digital Sky Survey.
- See POPE, ADRIAN C., et al. Cosmological Parameters from Eigenmode Analysis of Sloan Digital Sky Survey Galaxy Redshifts.
- Voids in the Two-Degree Field Galaxy Redshift Survey. *Fiona Hoyle & Michael S. Vogeley.* 607, 751 (2004)
- VON HIPPEL, TED. See MUKADAM, ANJUM S., et al. Thirty-Five New Pulsating DA White Dwarf Stars.
- VRTILEK, JAN M. A Deep *Chandra* Observation of the Distant Galaxy Cluster MS 1137.5+6625. *Laura Grego, Jan M. Vrtilek, Leon Van Speybroeck, Laurence P. David, William Forman, John E. Carlstrom, Erik D. Reese, & Marshall K. Joy.* 608, 731 (2004)
- WADSLEY, J. See GOVERNATO, F., et al. The Formation of a Realistic Disk Galaxy in Λ -dominated Cosmologies.
- WAKELY, S. P. See KOSACK, K., et al. TeV Gamma-Ray Observations of the Galactic Center.
- WALBORN, NOLAN R. A CNO Dichotomy among O2 Giant Spectra in the Magellanic Clouds. *Nolan R. Walborn, Nidia I. Morrell, Ian D. Howarth, Paul A. Crowther, Daniel J. Lennon, Philip Massey, & Julia I. Arias.* 608, 1028 (2004)
- WALKER, G. See KOSACK, K., et al. TeV Gamma-Ray Observations of the Galactic Center.
- WALKER, R. C. See SODERBERG, A. M., et al. A Redshift Determination for XRF 020903: First Spectroscopic Observations of an X-Ray Flash.
- WALTER, FABIAN. The Superwind Galaxy NGC 4666: Gravitational Interactions and the Influence of the Resulting Starburst on the Interstellar Medium. *Fabian Walter, Michael Dahlem, & Ute Lisenfeld.* 606, 258 (2004)
- WALTER, R. See BIRD, A. J., et al. The First IBIS/ISGR1 Soft Gamma-Ray Galactic Plane Survey Catalog.
- WAMBSGANS, JOACHIM. Giant Arc Statistics in Concord with a Concordance Lambda Cold Dark Matter Universe. *Joachim Wambsgans, Paul Bode, & Jeremiah P. Ostriker.* 606, L93 (2004)
- WANAJO, SHINYA. The r -Process in Supernovae: Impact of New Microscopic Mass Formulae. *Shinya Wanajo, Stephane Goriely, Mathieu Samyn, & Naoki Itoh.* 606, 1057 (2004)
- WANG, H. G. The Inner Annular Gap for Pulsar Radiation: γ -Ray and Radio Emission. *G. J. Qiao, K. J. Lee, H. G. Wang, R. X. Xu, & J. L. Han.* 606, L49 (2004)
- WANG, HAIMIN. Traces of the Dynamic Current Sheet during a Solar Flare. *Haisheng Ji, Haimin Wang, Philip R. Goode, Yunchun Jiang, & V. Yurchyshyn.* 607, L55 (2004)
- Near-Infrared Observations at 1.56 Microns of the 2003 October 29 X10 White-Light Flare. *Yan Xu, Wenda Cao, Chang Liu, Guo Yang, Jiong Qiu, Ju Jing, Carsten Denker, & Haimin Wang.* 607, L131 (2004)
- WANG, HONGCHI. See GRADY, C. A., et al. The Environment of the Optically Brightest Herbig Ae Star, HD 104237.
- WANG, J. X. X-Ray Nondetection of the Ly α Emitters at $z \sim 4.5$. *J. X. Wang, J. E. Rhoads, S. Malhotra, S. Dawson, D. Stern, A. Dey, T. M. Heckman, C. A. Norman, & H. Spinrad.* 608, L21 (2004)
- WANG, JIAN-MIN. The Hot Disk Corona and Magnetic Turbulence in Radio-quiet Active Galactic Nuclei: Observational Constraints. *Jian-Min Wang, Ken-Ya Watarai, & Shin Mineshige.* 607, L107 (2004)
- WANG, JUNXIAN. See NORMAN, COLIN, et al. The X-Ray-derived Cosmological Star Formation History and the Galaxy X-Ray Luminosity Functions in the *Chandra* Deep Fields North and South.
- WANG, LIFAN. See GERARDY, CHRISTOPHER L., et al. SN 2003du: Signatures of the Circumstellar Environment in a Normal Type Ia Supernova?
- WANG, YUN. Model-independent Constraints on Dark Energy Density from Flux-Averaging Analysis of Type Ia Supernova Data. *Yun Wang & Pia Mukherjee.* 606, 654 (2004)
- WANNIER, PETER G. A Hot Envelope around the Southern Coalsack: X-Ray and Far-Ultraviolet Observations. *B-G Andersson, David C. Knauth, S. L. Snowden, R. L. Shelton, & Peter G. Wannier.* 606, 341 (2004)

- WARGELIN, B. J. *Chandra* Observations of the “Dark” Moon and Geocoronal Solar Wind Charge Transfer. *B. J. Wargelin, M. Markevitch, M. Juda, V. Kharchenko, R. Edgar, & A. Dalgarno.* 607, 596 (2004)
- WARNER, CRAIG. Active Galactic Nuclei Emission-Line Properties versus the Eddington Ratio. *Craig Warner, Fred Hamann, & Matthias Dietrich.* 608, 136 (2004)
- WARREN, JESSICA S. Raising the Dead: Clues to Type Ia Supernova Physics from the Remnant 0509–67.5. *Jessica S. Warren & John P. Hughes.* 608, 261 (2004)
- WATANABE, A. See KAWACHI, A., et al. A Search for TeV Gamma-Ray Emission from the PSR B1259–63/SS 2883 Binary System with the Cangaroo-II 10 m Telescope.
- WATANABE, S. See TSUCHIYA, K., et al. Detection of Sub-TeV Gamma Rays from the Galactic Center Direction by CANGAROO-II.
See KAWACHI, A., et al. A Search for TeV Gamma-Ray Emission from the PSR B1259–63/SS 2883 Binary System with the Cangaroo-II 10 m Telescope.
- WATARAI, KEN-YA. The Hot Disk Corona and Magnetic Turbulence in Radio-quiet Active Galactic Nuclei: Observational Constraints. *Jian-Min Wang, Ken-Ya Watarai, & Shin Mineshige.* 607, L107 (2004)
- WATSON, C. Kelvin-Helmholtz Instability in a Weakly Ionized Medium. *C. Watson, E. G. Zweibel, F. Heitsch, & E. Churchwell.* 608, 274 (2004)
- WATSON, R. A. The Quest for Microwave Foreground X. *Angélica de Oliveira-Costa, Max Tegmark, R. D. Davies, Carlos M. Gutiérrez, A. N. Lasenby, R. Rebolo, & R. A. Watson.* 606, L89 (2004)
- WAXMAN, ELI. High-Energy Cosmic Rays from Gamma-Ray Burst Sources: A Stronger Case. *Eli Waxman.* 606, 988 (2004)
- WEAVER, KIMBERLY A. A High Spatial Resolution X-Ray and H α Study of Hot Gas in the Halos of Star-Forming Disk Galaxies. II. Quantifying Supernova Feedback. *David K. Strickland, Timothy M. Heckman, Edward J. M. Colbert, Charles G. Hoopes, & Kimberly A. Weaver.* 606, 829 (2004)
- WEEKES, T. C. See KOSACK, K., et al. TeV Gamma-Ray Observations of the Galactic Center.
- WEINBERG, DAVID H. See TEGMARK, MAX, et al. The Three-dimensional Power Spectrum of Galaxies from the Sloan Digital Sky Survey.
See POPE, ADRIAN C., et al. Cosmological Parameters from Eigenmode Analysis of Sloan Digital Sky Survey Galaxy Redshifts.
See ZEHAVI, IDIT, et al. On Departures from a Power Law in the Galaxy Correlation Function.
- WEINDL, A. See ANTONI, T., et al. Search for Cosmic-Ray Point Sources with KASCADE.
- WEISBERG, J. M. Effect of Quasi-Orthogonal Emission Modes on the Rotation Measures of Pulsars. *R. Ramachandran, D. C. Backer, Joanna M. Rankin, J. M. Weisberg, & K. E. Devine.* 606, 1167 (2004)
- WEISSKOPF, M. C. See KOUVELIOTOU, C., et al. *Chandra* Observations of the X-Ray Environments of SN 1998bw/GRB 980425.
- WEN, LINQING. Constraining the Properties of Supermassive Black Hole Systems Using Pulsar Timing: Application to 3C 66B. *Fredrick A. Jenet, Andrea Lommen, Shane L. Larson, & Linqing Wen.* 606, 799 (2004)
- WESTERHOFF, S. See ATKINS, R., et al. TeV Gamma-Ray Survey of the Northern Hemisphere Sky Using the Milagro Observatory.
- WHEELER, J. CRAIG. See GERARDY, CHRISTOPHER L., et al. SN 2003du: Signatures of the Circumstellar Environment in a Normal Type Ia Supernova?
- WHITE, B. A. See REED, M. D., et al. Discovery of Gravity-Mode Pulsators among Subdwarf B Stars: PG 1716+426, the Class Prototype.
- WHITE, MARTIN. Probing the Statistics of the Temperature-Density Relation of the Intergalactic Medium. *Taotao Fang & Martin White.* 606, L9 (2004)
Halo Asphericity and the Shear Three-Point Function. *Shirley Ho & Martin White.* 607, 40 (2004)
Mock Catalogs for the DEEP2 Redshift Survey. *Renbin Yan, Martin White, & Alison L. Coil.* 607, 739 (2004)
- WHITE, RICHARD L. FIRST-2MASS Sources below the APM Detection Threshold: A Population of Highly Reddened Quasars. *Eilat Glikman, Michael D. Gregg, Mark Lucy, David J. Helfand, Robert H. Becker, & Richard L. White.* 607, 60 (2004)
- WHITE, S. M. Radio Observations of Rapid Acceleration in a Slow Filament Eruption/Fast Coronal Mass Ejection Event. *M. R. Kundu, S. M. White, V. I. Garaimov, P. K. Manoharan, P. Subramanian, S. Ananthakrishnan, & P. Janardhan.* 607, 530 (2004)
- WIERINGA, M. H. Constraints on Off-Axis Gamma-Ray Burst Jets in Type Ibc Supernovae from Late-Time Radio Observations. *A. M. Soderberg, D. A. Frail, & M. H. Wieringa.* 607, L13 (2004)
- WIESCHER, MICHAEL. The Nuclear Reaction Waiting Points: ^{22}Mg , ^{26}Si , ^{30}S , and ^{34}Ar and Bolometrically Double-peaked Type I X-Ray Bursts. *Jacob Lund Fisker, Friedrich-Karl Thielemann, & Michael Wiescher.* 608, L61 (2004)
- WINANDS, R. See MILLER, J. M., et al. Evidence of Black Hole Spin in GX 339–4: *XMM-Newton*/EPIC-pn and *RXTE* Spectroscopy of the Very High State.
- WINANDS, RUDY. Monitoring *Chandra* Observations of the Quasi-persistent Neutron Star X-Ray Transient MXB 1659–29 in Quiescence: The Cooling Curve of the Heated Neutron Star Crust. *Rudy Wijnands, Jeroen Homan, Jon M. Miller, & Walter H. G. Lewin.* 606, L61 (2004)
- WILKINSON, E. See GRADY, C. A., et al. The Environment of the Optically Brightest Herbig Ae Star, HD 104237.
- WILLIAMS, R. A. See SCALZO, R. A., et al. High-Energy Gamma-Ray Observations of W Comae with the Solar Tower Atmospheric Cerenkov Effect Experiment (STACEE).
See ATKINS, R., et al. TeV Gamma-Ray Survey of the Northern Hemisphere Sky Using the Milagro Observatory.
- WILLIAMS, JONATHAN P. A Submillimeter Search of Nearby Young Stars for Cold Dust: Discovery of Debris Disks around Two Low-Mass Stars. *Michael C. Liu, Brenda C. Matthews, Jonathan P. Williams, & Paul G. Kalas.* 608, 526 (2004)
- WILLIAMS, PETER R. On Constraining the Smoothed Particle Hydrodynamics Kernel Radius in Galaxy Simulations. *Peter R. Williams, David K. Churches, & Alistair H. Nelson.* 607, 1 (2004)
- WILLIGER, G. M. See GRADY, C. A., et al. The Environment of the Optically Brightest Herbig Ae Star, HD 104237.
- WILLMAN, BETH. See GOVERNATO, F., et al. The Formation of a Realistic Disk Galaxy in Λ -dominated Cosmologies.
- WILLOTT, CHRIS J. The Faintness of the 158 Micron [C II] Transition in the $z = 6.42$ Quasar SDSS J1148+5251. *Alberto D. Bolatto, James Di Francesco, & Chris J. Willott.* 606, L101 (2004)
- WILSON, M. E. See ATKINS, R., et al. TeV Gamma-Ray Survey of the Northern Hemisphere Sky Using the Milagro Observatory.
- WINDHORST, R. A. Further Multiwavelength Observations of the SSA 22 Ly α -emitting “Blob”. *S. C. Chapman, D. Scott, R. A. Windhorst, D. T. Frayer, C. Borys, G. F. Lewis, & R. J. Ivison.* 606, 85 (2004)
- WINGERT, D. W. See BARAI, P., et al. Mass and Angular Momentum Transfer in the Massive Algol Binary RY Persei.
- WINGET, D. E. See MUKADAM, ANJUM S., et al. Thirty-Five New Pulsating DA White Dwarf Stars.
- WISE, M. W. A Systematic Study of Radio-induced X-Ray Cavities in Clusters, Groups, and Galaxies. *L. Birzan, D. A. Rafferty, B. R. McNamara, M. W. Wise, & P. E. J. Nulsen.* 607, 800 (2004)
- WISOTZKI, LUTZ. See BELL, ERIC F., et al. Nearly 5000 Distant Early-Type Galaxies in COMBO-17: A Red Sequence and Its Evolution since $z \sim 1$.
- WITT, ADOLF N. Discovery of Blue Luminescence in the Red Rectangle: Possible Fluorescence from Neutral Polycyclic Aromatic Hydrocarbon Molecules? *Uma P. Vijh, Adolf N. Witt, & Karl D. Gordon.* 606, L65 (2004)
- WOCELE, J. See ANTONI, T., et al. Search for Cosmic-Ray Point Sources with KASCADE.
- WOJDOWSKI, PATRICK S. Erratum: Resolving the Effects of Resonant X-Ray Line Scattering in Centaurus X-3 with *Chandra* (ApJ, 582, 959 [2003]). *Patrick S. Wojdowski, Duane A. Liedahl, Masao Sako, Steven M. Kahn, & Frederik Paerels.* 607, 1071 (2004) (Orig. paper in 582, 959 [2003])
- WOLF, CHRISTIAN. See BELL, ERIC F., et al. Nearly 5000 Distant Early-Type Galaxies in COMBO-17: A Red Sequence and Its Evolution since $z \sim 1$.
- WOLFF, CHARLES L. The Sun’s Reversing Flows and Heat Spike as Caused by g-Modes. *Charles L. Wolff & Hans G. Mayr.* 606, L163 (2004)
- WOLK, S. J. Coronal Variability in the Young Cluster NGC 2516. *S. J. Wolk, F. R. Harnden, Jr., S. S. Murray, N. R. Adams, F. Damiani, E. Flaccomio, G. Micela, S. Sciortino, & R. D. Jeffries.* 606, 466 (2004)
- WOLLACK, E. See NOLTA, M. R., et al. First Year *Wilkinson Microwave Anisotropy Probe* Observations: Dark Energy Induced Correlation with Radio Sources.
- WOLLEBEN, M. H. I Absorption of Polarized Emission: A New Technique for Determining Kinematic Distances to Galactic Supernova Remnants. *R. Kothes, T. L. Landecker, & M. Wolleben.* 607, 855 (2004)

- WOLTER, A. The Gamma-Ray Bright BL Lacertae Object RX J1211+2242. *V. Beckmann, P. Favre, F. Tavecchio, T. Bussien, J. Fliri, & A. Wolter.* 608, 692 (2004)
- WOO, TAK-PONG. Effects of Preheated Clusters on the Cosmic Microwave Background Spectrum. *Kai-Yang Lin, Tak-Pong Woo, Yuo-Huan Tseng, Lihwai Lin, & Tzihong Chiu.* 608, L1 (2004)
- WOOD, BRIAN E. The Far-Ultraviolet Spectra of TW Hydrae. II. Models of H₂ Fluorescence in a Disk. *Gregory J. Herczeg, Brian E. Wood, Jeffrey L. Linsky, Jeff A. Valenti, & Christopher M. Johns-Krull.* 607, 369 (2004)
- WOODGATE, B. See GRADY, C. A., et al. The Environment of the Optically Brightest Herbig Ae Star, HD 104237.
- WOODS, PETER M. A Comprehensive Study of the X-Ray Bursts from the Magnetar Candidate 1E 2259+586. *Fotis P. Gavril, Victoria M. Kaspi, & Peter M. Woods.* 607, 959 (2004)
- WOON, DAVID E. Photoionization of Benzene and Small Polycyclic Aromatic Hydrocarbons in Ultraviolet-processed Astrophysical Ices: A Computational Study. *David E. Woon & Jin-Young Park.* 607, 342 (2004)
- WOOSLEY, S. E. Direct Numerical Simulations of Type Ia Supernovae Flames. I. The Landau-Darrieus Instability. *J. B. Bell, M. S. Day, C. A. Rendleman, S. E. Woosley, & M. Zingale.* 606, 1029 (2004)
- Carbon Ignition in Type Ia Supernovae: An Analytic Model. *S. E. Woosley, S. Wunsch, & M. Kuhlen.* 607, 921 (2004)
- The Propagation and Eruption of Relativistic Jets from the Stellar Progenitors of Gamma-Ray Bursts. *Weiqun Zhang, S. E. Woosley, & A. Heger.* 608, 365 (2004)
- See KOUVELIOTOU, C., et al. *Chandra* Observations of the X-Ray Environs of SN 1998bw/GRB 980425.
- Direct Numerical Simulations of Type Ia Supernovae Flames. II. The Rayleigh-Taylor Instability. *J. B. Bell, M. S. Day, C. A. Rendleman, S. E. Woosley, & M. Zingale.* 608, 883 (2004)
- WRIGHT, E. L. See NOLTA, M. R., et al. First Year *Wilkinson Microwave Anisotropy Probe* Observations: Dark Energy Induced Correlation with Radio Sources.
- WRIGHT, I. P. Astrophysical Significance of Asymptotic Giant Branch Stellar Wind Energies Recorded in Meteoritic SiC Grains. *A. B. Verchovsky, I. P. Wright, & C. T. Pillinger.* 607, 611 (2004)
- WU, KINWAH. *ROSAT* and *ASCA* Observations of the Narrow-Line Seyfert 1 Galaxy RX J0136.9–3510: Blueshifted Fe K α Line and Extended Soft X-Ray Emission. *Kajal K. Ghosh, Douglas A. Swartz, Allyn F. Tennant, Kinwah Wu, & Brian D. Ramsey.* 607, L111 (2004)
- WU, X. F. The Luminosity- E_p Relation within Gamma-Ray Bursts and the Implications for Fireball Models. *E. W. Liang, Z. G. Dai, & X. F. Wu.* 606, L29 (2004)
- WUNSCH, S. Carbon Ignition in Type Ia Supernovae: An Analytic Model. *S. E. Woosley, S. Wunsch, & M. Kuhlen.* 607, 921 (2004)
- WURM, GERHARD. On the Importance of Gas Flow through Porous Bodies for the Formation of Planetesimals. *Gerhard Wurm, Georgi Paraskov, & Oliver Krauss.* 606, 983 (2004)
- WYRZYKOWSKI, L. See BOND, I. A., et al. OGLE 2003-BLG-235/MOA 2003-BLG-53: A Planetary Microlensing Event.
- XU, DADONG. Using the Ultraviolet and Visible Spectrum of Comet 122P/de Vico to Identify the Parent Molecule CS₂. *William M. Jackson, Alessandra Scodinu, Dadong Xu, & Anita L. Cochran.* 607, L139 (2004)
- XU, R. X. The Inner Annular Gap for Pulsar Radiation: γ -Ray and Radio Emission. *G. J. Qiao, K. J. Lee, H. G. Wang, R. X. Xu, & J. L. Han.* 606, L49 (2004)
- XU, X. W. See ATKINS, R., et al. TeV Gamma-Ray Survey of the Northern Hemisphere Sky Using the Milagro Observatory.
- XU, YAN. Near-Infrared Observations at 1.56 Microns of the 2003 October 29 X10 White-Light Flare. *Yan Xu, Wenda Cao, Chang Liu, Guo Yang, Jiong Qiu, Ju Jing, Carsten Denker, & Haimin Wang.* 607, L131 (2004)
- XU, YONGZHONG. See TEGMARK, MAX, et al. The Three-dimensional Power Spectrum of Galaxies from the Sloan Digital Sky Survey.
- YAMADA, SHOICHI. General Relativistic Magnetohydrodynamic Simulations of Collapsars. *Yosuke Mizuno, Shoichi Yamada, Shinji Koide, & Kazunari Shibata.* 606, 395 (2004)
- Propagation and Dynamics of Relativistic Jets. *Akira Mizuta, Shoichi Yamada, & Hideaki Takabe.* 606, 804 (2004)
- Magnetorotational Effects on Anisotropic Neutrino Emission and Convection in Core-Collapse Supernovae. *Kei Kotake, Hidetomo Sawai, Shoichi Yamada, & Katsuhiko Sato.* 608, 391 (2004)
- Numerical Study on the Rotational Collapse of Strongly Magnetized Cores of Massive Stars. *Shoichi Yamada & Hidetomo Sawai.* 608, 907 (2004)
- YAMAMOTO, TETSUYA T. Existence of Nanoparticle Dust Grains in the Inner Solar Corona? *Jagdev Singh, Takashi Sakurai, Kiyoshi Ichimoto, Masaaki Hagino, & Tetsuya T. Yamamoto.* 608, L69 (2004)
- YAMAOKA, T. See TSUCHIYA, K., et al. Detection of Sub-TeV Gamma Rays from the Galactic Center Direction by CANGAROO-II.
- YAMAZAKI, RYO. Peak Energy–Isotropic Energy Relation in the Off-Axis Gamma-Ray Burst Model. *Ryo Yamazaki, Kunihito Ioka, & Takashi Nakamura.* 606, L33 (2004)
- A Unified Model of Short and Long Gamma-Ray Bursts, X-Ray-rich Gamma-Ray Bursts, and X-Ray Flashes. *Ryo Yamazaki, Kunihito Ioka, & Takashi Nakamura.* 607, L103 (2004)
- YAN, RENBIN. Mock Catalogs for the DEEP2 Redshift Survey. *Renbin Yan, Martin White, & Alison L. Coil.* 607, 739 (2004)
- YANAGISAWA, KENSHI. Spectral Classification and Effective Temperatures of L and T Dwarfs Based on Near-Infrared Spectra. *Tadashi Nakajima, Takashi Tsuji, & Kenshi Yanagisawa.* 607, 499 (2004)
- Dust in the Photospheric Environment. II. Effect on the Near-Infrared Spectra of L and T Dwarfs. *Takashi Tsuji, Tadashi Nakajima, & Kenshi Yanagisawa.* 607, 511 (2004)
- YANAGISAWA, T. See BOND, I. A., et al. OGLE 2003-BLG-235/MOA 2003-BLG-53: A Planetary Microlensing Event.
- YANAGITA, S. See TSUCHIYA, K., et al. Detection of Sub-TeV Gamma Rays from the Galactic Center Direction by CANGAROO-II.
- See KAWACHI, A., et al. A Search for TeV Gamma-Ray Emission from the PSR B1259–63/SS 2883 Binary System with the Cangaroo-II 10 m Telescope.
- YANG, GUO. Near-Infrared Observations at 1.56 Microns of the 2003 October 29 X10 White-Light Flare. *Yan Xu, Wenda Cao, Chang Liu, Guo Yang, Jiong Qiu, Ju Jing, Carsten Denker, & Haimin Wang.* 607, L131 (2004)
- YANG, JONGMANN. Observations of A4059 with the *Chandra*, *Hubble Space Telescope*, and the Very Large Array: Unraveling a Complex Cluster/Radio Galaxy Interaction. *Yun-Young Choi, Christopher S. Reynolds, Sebastian Heinz, Jessica L. Rosenberg, Eric S. Perlman, & Jongmann Yang.* 606, 185 (2004)
- YANG, YUJIN. E+A Galaxies and the Formation of Early Type Galaxies at $z \sim 0$. *Yujin Yang, Ann I. Zabludoff, Dennis Zaritsky, Tod R. Lauer, & J. Christopher Mihos.* 607, 258 (2004)
- YANNY, BRIAN. See TEGMARK, MAX, et al. The Three-dimensional Power Spectrum of Galaxies from the Sloan Digital Sky Survey.
- YAQOOB, TAHIR. High-Resolution X-Ray Spectroscopy of the Fe K Complex in IC 4329A. *Barry McKernan & Tahir Yaqoob.* 608, 157 (2004)
- YEE, H. K. C. Properties of Galaxy Dark Matter Halos from Weak Lensing. *Henk Hoekstra, H. K. C. Yee, & Michael D. Gladders.* 606, 67 (2004)
- YOACHIM, PETER. The Formation of Dust Lanes: Implications for Galaxy Evolution. *Julianne J. Dalcanton, Peter Yoachim, & Rebecca A. Bernstein.* 608, 189 (2004)
- YOCK, P. C. M. See BOND, I. A., et al. OGLE 2003-BLG-235/MOA 2003-BLG-53: A Planetary Microlensing Event.
- YODH, G. B. See ATKINS, R., et al. TeV Gamma-Ray Survey of the Northern Hemisphere Sky Using the Milagro Observatory.
- YOKOYAMA, JUN'ICHI. Reconstructing the Primordial Spectrum from WMAP Data by the Cosmic Inversion Method. *Noriyuki Kogo, Makoto Matsumiya, Misao Sasaki, & Jun'ichi Yokoyama.* 607, 32 (2004)
- YORK, DONALD G. See TEGMARK, MAX, et al. The Three-dimensional Power Spectrum of Galaxies from the Sloan Digital Sky Survey.
- See KLEINMAN, S. J., et al. A Catalog of Spectroscopically Identified White Dwarf Stars in the First Data Release of the Sloan Digital Sky Survey.
- See ZEHAVERI, IDIT, et al. On Departures from a Power Law in the Galaxy Correlation Function.
- YOSHIDA, H. Detection of D₂H⁺ in the Interstellar Medium. *C. Vastel, T. G. Phillips, & H. Yoshida.* 606, L127 (2004)
- YOSHIDA, NAOKI. Disk Galaxy Formation in a Cold Dark Matter Universe. *Brant Robertson, Naoki Yoshida, Volker Springel, & Lars Hernquist.* 606, 32 (2004)
- YOSHIDA, T. See TSUCHIYA, K., et al. Detection of Sub-TeV Gamma Rays from the Galactic Center Direction by CANGAROO-II.
- See KAWACHI, A., et al. A Search for TeV Gamma-Ray Emission from the PSR B1259–63/SS 2883 Binary System with the Cangaroo-II 10 m Telescope.

- YOSHIDA, TAKASHI. Numerical Analyses of Isotopic Ratios of Presolar Grains from Supernovae. *Takashi Yoshida & Masa-aki Hashimoto*. 606, 592 (2004)
- YOSHIGUCHI, HIROYUKI. Numerical Study on Propagation of Ultra-High Energy Cosmic Rays in the Galactic Magnetic Field. *Hiroyuki Yoshiguchi, Shigehiro Nagataki, & Katsuhiko Sato*. 607, 840 (2004)
- YOSHIKAWA, KOHJI. Erratum: The Luminosity Function of IRAS Point Source Catalog Redshift Survey Galaxies (ApJ, 587, L89 [2003]). *Tsutomu T. Takeuchi, Kohji Yoshikawa, & Takako T. Ishii*. 606, L171 (2004) (Orig. paper in 587, L89 (2003))
- YOSHIKOSHI, T. See TSUCHIYA, K., et al. Detection of Sub-TeV Gamma Rays from the Galactic Center Direction by CANGAROO-II.
See KAWACHI, A., et al. A Search for TeV Gamma-Ray Emission from the PSR B1259–63/SS 2883 Binary System with the Cangaroo-II 10 m Telescope.
- YOST, S. A. See SODERBERG, A. M., et al. A Redshift Determination for XRF 020903: First Spectroscopic Observations of an X-Ray Flash.
- YUAN, FENG. On the Nature of the Variable Infrared Emission from Sagittarius A*. *Feng Yuan, Eliot Quataert, & Ramesh Narayan*. 606, 894 (2004)
- YUAN, YE-FEI. Constraining Alternate Models of Black Holes: Type I X-Ray Bursts on Accreting Fermion-Fermion and Boson-Fermion Stars. *Ye-Fei Yuan, Ramesh Narayan, & Martin J. Rees*. 606, 1112 (2004)
- YURCHYSHYN, V. Traces of the Dynamic Current Sheet during a Solar Flare. *Haisheng Ji, Haimin Wang, Philip R. Goode, Yunchun Jiang, & V. Yurchyshyn*. 607, L55 (2004)
- ZABIEROWSKI, J. See ANTONI, T., et al. Search for Cosmic-Ray Point Sources with KASCADE.
- ZABLUDOFF, ANN I. E+A Galaxies and the Formation of Early Type Galaxies at $z \sim 0$. *Yujin Yang, Ann I. Zabludoff, Dennis Zaritsky, Tod R. Lauer, & J. Christopher Mihos*. 607, 258 (2004)
- ZAKHAROV, V. On the Origins of Solar Faculae. *C. U. Keller, M. Schüssler, A. Vögler, & V. Zakharov*. 607, L59 (2004)
- ZALDARRIAGA, MATIAS. 21 Centimeter Fluctuations from Cosmic Gas at High Redshifts. *Matias Zaldarriaga, Steven R. Furlanetto, & Lars Hernquist*. 608, 622 (2004)
- ZAMORANI, G. Metal Enrichment in Near-Infrared Luminous Galaxies at $z \sim 2$: Signatures of Proto-Elliptical Galaxies? *D. F. de Mello, E. Daddi, A. Renzini, A. Cimatti, S. di Serego Alighieri, L. Pozzetti, & G. Zamorani*. 608, L29 (2004)
- ZANE, S. Pronounced Long-Term Flux Variability of the Anomalous X-Ray Pulsar 1E 1048.1–5937. *S. Mereghetti, A. Tiengo, L. Stella, G. L. Israel, N. Rea, S. Zane, & T. Oosterbroek*. 608, 427 (2004)
- ZARITSKY, DENNIS. E+A Galaxies and the Formation of Early Type Galaxies at $z \sim 0$. *Yujin Yang, Ann I. Zabludoff, Dennis Zaritsky, Tod R. Lauer, & J. Christopher Mihos*. 607, 258 (2004)
- ZAVLIN, VYACHESLAV E. Variations in the Spin Period of the Radio-Quiet Pulsar 1E 1207.4–5209. *Vyacheslav E. Zavlin, George G. Pavlov, & Divas Sanwal*. 606, 444 (2004)
- ZEBRUN, K. See BOND, I. A., et al. OGLE 2003-BLG-235/MOA 2003-BLG-53: A Planetary Microlensing Event.
- ZEHAVI, IDIT. See TEGMARK, MAX, et al. The Three-dimensional Power Spectrum of Galaxies from the Sloan Digital Sky Survey.
See POPE, ADRIAN C., et al. Cosmological Parameters from Eigenmode Analysis of Sloan Digital Sky Survey Galaxy Redshifts.
On Departures from a Power Law in the Galaxy Correlation Function. *Idit Zehavi, David H. Weinberg, Zheng Zheng, Andreas A. Berlind, Joshua A. Frieman, Román Scoccimarro, Ravi K. Sheth, Michael R. Blanton, Max Tegmark, Houjun J. Mo, Neta A. Bahcall, Jon Brinkmann, Scott Burles, István Csabai, Masataka Fukugita, James E. Gunn, Don Q. Lamb, Jon Loveday, Robert H. Lupton, Avery Meiksin, Jeffrey A. Munn, Robert C. Nichol, David Schlegel, Donald P. Schneider, Mark SubbaRao, Alexander S. Szalay, Alan Uomoto, & Donald G. York*. 608, 16 (2004)
- ZEIPPEN, C. J. Atomic Data and Spectral Line Intensities for Ca VIII. *E. Landi, P. J. Storey, & C. J. Zeppen*. 607, 640 (2004)
- ZEPP, STEPHEN E. An Explanation for Metallicity Effects on X-Ray Binary Properties. *Thomas J. Maccarone, Arunav Kundu, & Stephen E. Zepf*. 606, 430 (2004)
- ZHANG, L. Gamma-Ray Emission Properties from Mature Pulsars in the Galaxy and in the Gould Belt. *K. S. Cheng, L. Zhang, P. Leung, & Z. J. Jiang*. 608, 418 (2004)
- ZHANG, Q. IRAS 18317–0757: A Cluster of Embedded Massive Stars and Protostars. *T. R. Hunter, Q. Zhang, & T. K. Sridharan*. 606, 929 (2004)
- ZHANG, QIZHOU. The Case for Local Collapse in the W51 Star-forming Region. *Peter K. Sollins, Qizhou Zhang, & Paul T. P. Ho*. 606, 943 (2004)
- ZHANG, S. N. Diagnostics of Neutron Star and Black Hole X-Ray Binaries with X-Ray Shot Widths. *Hua Feng, T. P. Li, & S. N. Zhang*. 606, 424 (2004)
- ZHANG, SHUANG-NAN. X-Ray Triple Rings around the M87 Jets in the Central Virgo Cluster. *Hua Feng, Shuang-Nan Zhang, Yu-Qing Lou, & Ti-Pei Li*. 607, L95 (2004)
- ZHANG, WEIQUN. The Propagation and Eruption of Relativistic Jets from the Stellar Progenitors of Gamma-Ray Bursts. *Wei-qun Zhang, S. E. Woosley, & A. Heger*. 608, 365 (2004)
- ZHAO, J. Three-dimensional Inversion of Time-Distance Helioseismology Data: Ray-Path and Fresnel-Zone Approximations. *S. Couvidat, A. C. Birch, A. G. Kosovichev, & J. Zhao*. 607, L135 (2004)
- ZHAO, JUNWEI. On the Relationship between the Rotational Velocity and the Field Strength of Solar Magnetic Elements. *Junwei Zhao, Alexander G. Kosovichev, & Thomas L. Duvall, Jr.* 607, L135 (2004)
- ZHENG, WEI. See NORMAN, COLIN, et al. The X-Ray-derived Cosmological Star Formation History and the Galaxy X-Ray Luminosity Functions in the Chandra Deep Fields North and South.
- ZHENG, ZHENG. See ZEHAVI, IDIT, et al. On Departures from a Power Law in the Galaxy Correlation Function.
- ZIMMER, P. The Pattern Speeds of M51, M83, and NGC 6946 Using CO and the Tremaine-Weinberg Method. *P. Zimmer, R. J. Rand, & J. T. McGraw*. 607, 285 (2004)
- ZINGALE, M. Direct Numerical Simulations of Type Ia Supernovae Flames. I. The Landau-Darrieus Instability. *J. B. Bell, M. S. Day, C. A. Rendleman, S. E. Woosley, & M. Zingale*. 606, 1029 (2004)
- Direct Numerical Simulations of Type Ia Supernovae Flames. II. The Rayleigh-Taylor Instability. *J. B. Bell, M. S. Day, C. A. Rendleman, S. E. Woosley, & M. Zingale*. 608, 883 (2004)
- ZIOUTAS, K. Quiet-Sun X-Rays as Signature for New Particles. *K. Zioutas, K. Demmerl, L. DiLella, D. H. H. Hoffmann, J. Jacoby, & Th. Papaevangelou*. 607, 575 (2004)
- ZIRM, ANDREW. See NORMAN, COLIN, et al. The X-Ray-derived Cosmological Star Formation History and the Galaxy X-Ray Luminosity Functions in the Chandra Deep Fields North and South.
- ZIURYS, L. M. Precise Rest Frequencies for AlII and AlI ($X^1\Sigma^+$): A Reassessment of the Aluminum Hyperfine Structure. *D. T. Halfen & L. M. Ziurys*. 607, L63 (2004)
- Direct Measurement of the $N = 0 \rightarrow 1$ Transition of SH^+ ($X^3\Sigma^-$) by Submillimeter Velocity Modulation Spectroscopy. *C. Savage, A. J. Apponi, & L. M. Ziurys*. 608, L73 (2004)
- ZONAK, STEPHANIE G. The Absorption Signatures of Dwarf Galaxies: The $z = 1.04$ Multicloud Weak Mg II Absorber toward PG 1634+706. *Stephanie G. Zonak, Jane C. Charlton, Jie Ding, & Christopher W. Churchill*. 606, 196 (2004)
- ZOUGANELIS, I. A Transonic Collisionless Model of the Solar Wind. *I. Zouganelis, M. Maksimovic, N. Meyer-Vernet, H. Lamy, & K. Issautier*. 606, 542 (2004)
- ZUREK, DAVID. First Evidence of Circumstellar Disks around Blue Straggler Stars. *Orsola De Marco, Thierry Lanz, John A. Ouellette, David Zurek, & Michael M. Shara*. 606, L151 (2004)
- ZWEERINK, J. See SCALZO, R. A., et al. High-Energy Gamma-Ray Observations of W Comae with the Solar Tower Atmospheric Cerenkov Effect Experiment (STACEE).
See KOSACK, K., et al. TeV Gamma-Ray Observations of the Galactic Center.
- ZWEIBEL, E. G. Kelvin-Helmholtz Instability in a Weakly Ionized Medium. *C. Watson, E. G. Zweibel, F. Heitsch, & E. Churchwell*. 608, 274 (2004)
- ZYCKI, PIOTR T. High-Redshift Radio-quiet Quasars: Exploring the Parameter Space of Accretion Models. I. Hot, Semispherical Flow. *Małgorzata A. Sobolewska, Aneta Siemiginowska, & Piotr T. Zycki*. 608, 80 (2004)



SUBJECT INDEX

PARTS 1 & 2, VOLUMES 606–608

2004 MAY 1 TO JUNE 20

ACCELERATION OF PARTICLES

- A Transonic Collisionless Model of the Solar Wind. *I. Zouganelis, M. Maksimovic, N. Meyer-Vernet, H. Lamy, & K. Issautier.* 606, 542 (2004)
- Abundances of Heavy and Ultraheavy Ions in ^3He -rich Solar Flares. *G. M. Mason, J. E. Mazur, J. R. Dwyer, J. R. Jokipii, R. E. Gold, & S. M. Krimigis.* 606, 555 (2004)
- High-Altitude Particle Acceleration and Radiation in Pulsar Slot Gaps. *Alex G. Muslimov & Alice K. Harding.* 606, 1143 (2004)
- On Multiwavelength Emission of Large-Scale Quasar Jets. *Lukasz Stawarz, Marek Sikora, Michał Ostrowski, & Mitchell C. Begelman.* 608, 95 (2004)
- Particle Acceleration in an Evolving Network of Unstable Current Sheets. *Loukas Vlahos, Heinz Isliker, & Fabio Lepreti.* 608, 540 (2004)
- Magnetic Field Generation in Collisionless Shocks: Pattern Growth and Transport. *J. Trier Frederiksen, C. B. Hededal, T. Haugbølle, & Å. Nordlund.* 608, L13 (2004)
- ## ACCRETION, ACCRETION DISKS
- Reprocessing of Soft X-Ray Emission Lines in Black Hole Accretion Disks. *Christopher W. Mauche, Duane A. Liedahl, Benjamin F. Mathiesen, Mario A. Jimenez-Garate, & John C. Raymond.* 606, 168 (2004)
- Testing Radiatively Inefficient Accretion Flow Theory: An XMM-Newton Observation of NGC 3998. *A. Ptak, Y. Terashima, L. C. Ho, & E. Quataert.* 606, 173 (2004)
- General Relativistic Magnetohydrodynamic Simulations of Collapsars. *Yosuke Mizuno, Shoichi Yamada, Shinji Koide, & Kazumari Shibata.* 606, 395 (2004)
- Accretion onto Fast X-Ray Pulsars. *S. A. Rappaport, J. M. Fregeau, & H. Spruit.* 606, 436 (2004)
- Low-Mass Protoplanet Migration in T Tauri α -Disks. *Kristen Menou & Jeremy Goodman.* 606, 520 (2004)
- On the Nature of the Flux Variability during an Expansion Stage of a Type I X-Ray Burst: Constraints on Neutron Star Parameters for 4U 1820–30. *Nikolai Shaposhnikov & Lev Titarchuk.* 606, L57 (2004)
- Monitoring *Chandra* Observations of the Quasi-persistent Neutron Star X-Ray Transient MXB 1659–29 in Quiescence: The Cooling Curve of the Heated Neutron Star Crust. *Rudy Wijndans, Jeroen Homan, Jon M. Miller, & Walter H. G. Lewin.* 606, L61 (2004)
- Reasoning From Fossils: Learning From the Local Black Hole Population About the Evolution of Quasars. *Zoltan Haiman, Luca Ciotti, & Jeremiah P. Ostriker.* 606, 763 (2004)
- On the Nature of the Variable Infrared Emission from Sagittarius A*. *Feng Yuan, Eliot Quataert, & Ramesh Narayan.* 606, 894 (2004)
- Hubble Space Telescope* WFPC2 Study of the Trapezium Cluster: The Influence of Circumstellar Disks on the Initial Mass Function. *M. Robberto, J. Song, G. Mora Carrillo, S. V. Beckwith, R. B. Makidon, & N. Panagia.* 606, 952 (2004)
- Nucleosynthesis in Outflows from the Inner Regions of Collapsars. *Jason Pruet, Todd A. Thompson, & R. D. Hoffman.* 606, 1006 (2004)
- The Global Baroclinic Instability in Accretion Disks. II. Local Linear Analysis. *Hubert Klahr.* 606, 1070 (2004)
- Magnetically Driven Accretion Flows in the Kerr Metric. II. Structure of the Magnetic Field. *Shigenobu Hirose, Julian H. Krolik, Jean-Pierre De Villiers, & John F. Hawley.* 606, 1083 (2004)
- The Harmonic Structure of High-Frequency Quasi-periodic Oscillations in Accreting Black Holes. *Jeremy D. Schnittman & Edmund Bertschinger.* 606, 1098 (2004)
- Constraining Alternate Models of Black Holes: Type I X-Ray Bursts on Accreting Fermion-Fermion and Boson-Fermion Stars. *Ye-Fei Yuan, Ramesh Narayan, & Martin J. Rees.* 606, 1112 (2004)
- Fine-Tuning the Accretion Disk Clock in Hercules X-1. *M. Stoll & P. Boyd.* 606, L135 (2004)
- Detection of Two-armed Spiral Shocks on the Accretion Disk of the Eclipsing Fast Nova V1494 Aquilae. *Izumi Hachisu, Mariko Kato, & Taichi Kato.* 606, L139 (2004)

- Non-LTE Curves of Growth of X-Ray Absorption Lines. *Kuniaki Masai & Manabu Ishida.* 607, 76 (2004)
- The Far-Ultraviolet Spectra of TW Hydrae. II. Models of H_2 Fluorescence in a Disk. *Gregory J. Herczeg, Brian E. Wood, Jeffrey L. Linsky, Jeff A. Valenti, & Christopher M. Johns-Krull.* 607, 369 (2004)
- Magnetic Floods: A Scenario for the Variability of the Microquasar GRS 1915+105. *M. Tagger, P. Varnière, J. Rodriguez, & R. Pellat.* 607, 410 (2004)
- Does Disk Locking Solve the Stellar Angular Momentum Problem? *Sean Matt & Ralph E. Pudritz.* 607, L43 (2004)
- Iron $\text{K}\alpha$ Emission from the Low-Luminosity Active Galaxies M81 and NGC 4579. *G. C. Dewangan, R. E. Griffiths, T. Di Matteo, & N. J. Schurch.* 607, 788 (2004)
- Self-Similar Gravitational Collapse of Radiatively Cooling Spheres. *Masakatsu Murakami, Katsumobu Nishihara, & Tomoyuki Hanawa.* 607, 879 (2004)
- Photoevaporation of Circumstellar Disks around Young Stars. *Andreea S. Font, Ian G. McCarthy, Doug Johnstone, & David R. Ballantyne.* 607, 890 (2004)
- Revealing a Cool Accretion Disk in the Ultraluminous X-Ray Source M81 X-9 (Holmberg IX X-1): Evidence for an Intermediate-Mass Black Hole. *J. M. Miller, A. C. Fabian, & M. C. Miller.* 607, 931 (2004)
- The Hot Disk Corona and Magnetic Turbulence in Radio-quiet Active Galactic Nuclei: Observational Constraints. *Jian-Min Wang, Ken-Ya Watarai, & Shin Mineshige.* 607, L107 (2004)
- Ultracompact Binaries as Bright X-Ray Sources in Elliptical Galaxies. *Lars Bildsten & Christopher J. Deloye.* 607, L119 (2004)
- High-Redshift Radio-quiet Quasars: Exploring the Parameter Space of Accretion Models. I. Hot, Spherically Symmetric Flow. *Małgorzata A. Sobolewska, Aneta Siemiginowska, & Piotr T. Zycki.* 608, 80 (2004)
- Supermassive Stars in Quasar Disks. *J. Goodman & Jonathan C. Tan.* 608, 108 (2004)
- High-Resolution X-Ray Spectroscopy of the Fe K Complex in IC 4329A. *Barry McKernan & Tahir Yaqoob.* 608, 157 (2004)
- Low-Mass Pre-Main-Sequence Stars in the Large Magellanic Cloud. III. Accretion Rates from *Hubble Space Telescope* WFPC2 Observations. *M. Romaniello, M. Robberto, & N. Panagia.* 608, 220 (2004)
- Massive Molecular Outflows at High Spatial Resolution. *H. Beuther, P. Schilke, & F. Gueth.* 608, 330 (2004)
- Evolution of Spectral States of Aquila X-1 during the 2000 Outburst. *Dipankar Maitra & Charles D. Bailyn.* 608, 444 (2004)
- On the Steady Nature of Line-Driven Disk Winds. *Nicolas A. Pereyra, Stanley P. Owocki, D. John Hillier, & David A. Turnshek.* 608, 454 (2004)
- Linear Analysis of the Magnetorotational Instability, Including Ambipolar Diffusion, with Application to Protoplanetary Disks. *S. J. Desch.* 608, 509 (2004)
- Opaque or Transparent? A Link between Neutrino Optical Depths and the Characteristic Duration of Short Gamma-Ray Bursts. *William H. Lee, Enrico Ramirez-Ruiz, & Dany Page.* 608, L5 (2004)
- A Transition to a Low/Soft State in the Ultraluminous Compact X-Ray Source Holmberg II X-1. *Gulab C. Dewangan, Takamitsu Miyaji, Richard E. Griffiths, & Ingo Lehmann.* 608, L57 (2004)
- The Discovery of Optical Bursts from MS 1603.6+2600 (UW Coronae Borealis). *R. I. Hynes, E. L. Robinson, & E. Jeffery.* 608, L101 (2004)
- ## ASTROCHEMISTRY
- Photoionization of Benzene and Small Polycyclic Aromatic Hydrocarbons in Ultraviolet-processed Astrophysical Ices: A Computational Study. *David E. Woon & Jin-Young Park.* 607, 342 (2004)
- The Mid-Infrared Laboratory Spectra of Naphthalene (C_{10}H_8) in Solid H_2O . *S. A. Sandford, M. P. Bernstein, & L. J. Allamandola.* 607, 346 (2004)
- Precise Rest Frequencies for AlH and AlD ($X^1\Sigma^+$): A Reassessment of the Aluminum Hyperfine Structure. *D. T. Halfen & L. M. Ziurys.* 607, L63 (2004)
- Molecular Hydrogen in the Ionized Region of Planetary Nebulae. *Isabel Aleman & Ruth Gruenwald.* 607, 865 (2004)

- Using the Ultraviolet and Visible Spectrum of Comet 122P/de Vico to Identify the Parent Molecule CS₂. William M. Jackson, Alessandra Scodinu, Dadong Xu, & Anita L. Cochran. 607, L139 (2004)
- Probing the Early Stages of Low-Mass Star Formation in LDN 1689N: Dust and Water in IRAS 16293-2422A. B. and E. Ronald Stark, Goeran Sandell, Sara C. Beck, Michiel R. Hogerheijde, Ewine F. van Dishoeck, Peter van der Wal, Floris F. S. van der Tak, Frank Schaefer, Gary J. Melnick, Matt L. N. Ashby, & Gert de Lange. 608, 341 (2004)
- Oxygen/Hydrogen Chemistry in the Inner Comae of Active Comets. Robert J. Glinski, Brian J. Ford, Walter M. Harris, Christopher M. Anderson, & Jeffery P. Morganthaler. 608, 601 (2004)
- The Polymerization of Acetylene, Hydrogen Cyanide, and Carbon Chains in the Neutral Layers of C-rich Proto-planetary Nebulae. José Cernicharo. 608, L41 (2004)
- Direct Measurement of the $N = 0 \rightarrow 1$ Transition of SH⁺ ($X^3\Sigma^-$) by Submillimeter Velocity Modulation Spectroscopy. C. Savage, A. J. Apponi, & L. M. Ziurys. 608, L73 (2004)
- ### ASTROMETRY
- A General Relativistic Model of Light Propagation in the Gravitational Field of the Solar System: The Static Case. F. de Felice, M. T. Crosta, A. Vecchiato, M. G. Lattanzi, & B. Bucciarelli. 607, 580 (2004)
- ### ATOMIC DATA
- Measurements of the Singly Ionized Oxygen Auroral Doublet Lines $\lambda\lambda 7320, 7330$ Using High-Resolution Sky Spectra. Brian D. Sharpee, Tom G. Slanger, David L. Huestis, & Philip C. Cosby. 606, 605 (2004)
- Rate Coefficient for $H^+ + H_2(X^1\Sigma_g^+, v = 0, J = 0) \rightarrow H(1s) + H_2^+$ Charge Transfer and Some Cosmological Implications. Daniel Wolf Savin, Predrag S. Krstić, Zoltán Haiman, & Phillip C. Stancil. 606, L167 (2004)
- Atomic Data and Spectral Line Intensities for Ca VIII. E. Landi, P. J. Storey, & C. J. Zeppen. 607, 640 (2004)
- Laboratory Measurements of $3 \rightarrow 2$ X-Ray Emission Lines of Ne-like Ni XIX. M. F. Gu, P. Beiersdorfer, G. V. Brown, H. Chen, K. R. Boyce, R. L. Kelley, C. A. Kilbourne, F. S. Porter, & S. M. Kahn. 607, L143 (2004)
- ### ATOMIC PROCESSES
- Catching Some Sun: Probing the Solar Wind with Cometary X-Ray and Far-Ultraviolet Emission. D. Bodewits, Z. Juhász, R. Hoekstra, & A. G. G. M. Tielens. 606, L81 (2004)
- Chandra Observations of the "Dark" Moon and Geocoronal Solar Wind Charge Transfer. B. J. Wargelin, M. Markevitch, M. Juda, V. Kharchenko, R. Edgar, & A. Dalgarno. 607, 596 (2004)
- Laboratory Measurements of $3 \rightarrow 2$ X-Ray Emission Lines of Ne-like Ni XIX. M. F. Gu, P. Beiersdorfer, G. V. Brown, H. Chen, K. R. Boyce, R. L. Kelley, C. A. Kilbourne, F. S. Porter, & S. M. Kahn. 607, L143 (2004)
- The Production of H I in Photodissociation Regions and a Comparison with CO (1-0) Emission. Ronald J. Allen, Harold I. Heaton, & Michael J. Kaufman. 608, 314 (2004)
- Elucidating the Correlation of the Quasar Fe II/Mg II Ratio with Redshift. E. M. Verner & B. A. Peterson. 608, L85 (2004)
- ### BALLOONS
- A New Measurement of the Intensities of the Heavy Primary Cosmic-Ray Nuclei around 1 TeV amu⁻¹. F. Gahbauer, G. Hermann, J. R. Hörandel, D. Müller, & A. A. Radu. 607, 333 (2004)
- ### BLACK HOLE PHYSICS
- Cosmological Growth History of Supermassive Black Holes and Demographics in the High- z Universe: Do Lyman Break Galaxies Have Supermassive Black Holes? Takashi Hosokawa. 606, 139 (2004)
- Reprocessing of Soft X-Ray Emission Lines in Black Hole Accretion Disks. Christopher W. Mauche, Duane A. Liedahl, Benjamin F. Mathiesen, Mario A. Jimenez-Garate, & John C. Raymond. 606, 168 (2004)
- General Relativistic Magnetohydrodynamic Simulations of Collapsars. Yosuke Mizuno, Shoichi Yamada, Shinji Koide, & Kazunari Shibata. 606, 395 (2004)
- Diagnostics of Neutron Star and Black Hole X-Ray Binaries with X-Ray Shot Widths. Hua Feng, T. P. Li, & S. N. Zhang. 606, 424 (2004)
- The Effect of Gravitational-Wave Recoil on the Demography of Massive Black Holes. Piero Madau & Eliot Quataert. 606, L17 (2004)
- Orbital Capture of Stars by a Massive Black Hole via Exchanges with Compact Remnants. Tal Alexander & Mario Livio. 606, L21 (2004)
- Relativistic Outflow Magnetically Driven by Black Hole Rotation. Shinji Koide. 606, L45 (2004)
- Reasoning From Fossils: Learning From the Local Black Hole Population About the Evolution of Quasars. Zoltan Haiman, Luca Ciotti, & Jeremiah P. Ostriker. 606, 763 (2004)
- Chaotic Loss Cones and Black Hole Fueling. David Merritt & M. Y. Poon. 606, 788 (2004)
- Constraining the Properties of Supermassive Black Hole Systems Using Pulsar Timing: Application to 3C 66B. Fredrick A. Jenet, Andrea Lommen, Shane L. Larson, & Lingling Wen. 606, 799 (2004)
- On the Nature of the Variable Infrared Emission from Sagittarius A*. Feng Yuan, Eliot Quataert, & Ramesh Narayan. 606, 894 (2004)
- Magnetically Driven Accretion Flows in the Kerr Metric. II. Structure of the Magnetic Field. Shigenobu Hirose, Julian H. Krolik, Jean-Pierre De Villiers, & John F. Hawley. 606, 1083 (2004)
- The Harmonic Structure of High-Frequency Quasi-periodic Oscillations in Accreting Black Holes. Jeremy D. Schnittman & Edmund Bertschinger. 606, 1098 (2004)
- Constraining Alternate Models of Black Holes: Type I X-Ray Bursts on Accreting Fermion-Fermion and Boson-Fermion Stars. Ye-Fei Yuan, Ramesh Narayan, & Martin J. Rees. 606, 1112 (2004)
- Evidence of Class Transitions in GRS 1915+105 from Indian X-Ray Astronomy Experiment Data. Sandip K. Chakrabarti, A. Nandi, Asit Choudhury, & Utpal Chatterjee. 607, 406 (2004)
- How Black Holes Get Their Kicks: Gravitational Radiation Recoil Revisited. Marc Favata, Scott A. Hughes, & Daniel E. Holz. 607, L5 (2004)
- Consequences of Gravitational Radiation Recoil. David Merritt, Miloš Milosavljević, Marc Favata, Scott A. Hughes, & Daniel E. Holz. 607, L9 (2004)
- The Role of Gas in the Merging of Massive Black Holes in Galactic Nuclei. I. Black Hole Merging in a Spherical Gas Cloud. Andrés Escala, Richard B. Larson, Paolo S. Coppi, & Diego Mardones. 607, 765 (2004)
- Revealing a Cool Accretion Disk in the Ultraluminous X-Ray Source M81 X-9 (Holmberg IX X-1): Evidence for an Intermediate-Mass Black Hole. J. M. Miller, A. C. Fabian, & M. C. Miller. 607, 931 (2004)
- On Time Evolution and Causality of Force-Free Black Hole Magnetospheres. Amir Levinson. 608, 411 (2004)
- Core Formation by a Population of Massive Remnants. David Merritt, Slawomir Piatek, Simon Portegies Zwart, & Marc Hemsendorf. 608, L25 (2004)
- The First Stellar Binary Black Holes: The Strongest Gravitational Wave Burst Sources. Krzysztof Belczynski, Tomasz Bulik, & Bronislaw Rudak. 608, L45 (2004)
- A Transition to a Low/Soft State in the Ultraluminous Compact X-Ray Source Holmberg II X-1. Gulab C. Dewangan, Takamitsu Miyaji, Richard E. Griffiths, & Ingo Lehmann. 608, L57 (2004)
- Compton Sailing and Strong Polarization. David Eichler. 608, L81 (2004)
- ### CATALOGS
- A Catalog of Spectroscopically Identified White Dwarf Stars in the First Data Release of the Sloan Digital Sky Survey. S. J. Kleinman, Hugh C. Harris, Daniel J. Eisenstein, James Liebert, Atsuko Nitta, Jurek Krzesiński, Jeffrey A. Munn, Conrad C. Dahn, Suzanne L. Hawley, Jeffrey R. Pier, Gary Schmidt, Nicole M. Silvestri, J. Allyn Smith, Paula Szkody, Michael A. Strauss, G. R. Knapp, Matthew J. Collinge, A. S. Mukadam, D. Koester, Alan Uomoto, D. J. Schlegel, Scott F. Anderson, J. Brinkmann, D. Q. Lamb, Donald P. Schneider, & Donald G. York. 607, 426 (2004)
- Spectroscopic Confirmation of the Cl 1604 Supercluster at $z \sim 0.9$. R. R. Gal & L. M. Lubin. 607, L1 (2004)
- ### CELESTIAL MECHANICS
- The Circumbinary Ring of KH 15D. Eugene I. Chiang & Ruth A. Murray-Clay. 607, 913 (2004)
- ### COMETS: GENERAL
- Catching Some Sun: Probing the Solar Wind with Cometary X-Ray and Far-Ultraviolet Emission. D. Bodewits, Z. Juhász, R. Hoekstra, & A. G. G. M. Tielens. 606, L81 (2004)
- Fragmentation Hierarchy of Bright Sungrazing Comets and the Birth and Orbital Evolution of the Kreutz System. I. Two-Superfragment Model. Zdenek Sekanina & Paul W. Chodas. 607, 620 (2004)
- Oxygen/Hydrogen Chemistry in the Inner Comae of Active Comets. Robert J. Glinski, Brian J. Ford, Walter M. Harris, Christopher M. Anderson, & Jeffery P. Morganthaler. 608, 601 (2004)
- ### COMETS: INDIVIDUAL

Alphanumeric: C/1843 D1

Fragmentation Hierarchy of Bright Sungrazing Comets and the Birth and Orbital Evolution of the Kreutz System. I. Two-Superfragment Model. *Zdenek Sekanina & Paul W. Chodas*. 607, 620 (2004)

Alphanumeric: C/1880 C1

Fragmentation Hierarchy of Bright Sungrazing Comets and the Birth and Orbital Evolution of the Kreutz System. I. Two-Superfragment Model. *Zdenek Sekanina & Paul W. Chodas*. 607, 620 (2004)

Alphanumeric: C/1882 R1

Fragmentation Hierarchy of Bright Sungrazing Comets and the Birth and Orbital Evolution of the Kreutz System. I. Two-Superfragment Model. *Zdenek Sekanina & Paul W. Chodas*. 607, 620 (2004)

Alphanumeric: C/1887 B1

Fragmentation Hierarchy of Bright Sungrazing Comets and the Birth and Orbital Evolution of the Kreutz System. I. Two-Superfragment Model. *Zdenek Sekanina & Paul W. Chodas*. 607, 620 (2004)

Alphanumeric: C/1945 X1

Fragmentation Hierarchy of Bright Sungrazing Comets and the Birth and Orbital Evolution of the Kreutz System. I. Two-Superfragment Model. *Zdenek Sekanina & Paul W. Chodas*. 607, 620 (2004)

Alphanumeric: C/1963 R1

Fragmentation Hierarchy of Bright Sungrazing Comets and the Birth and Orbital Evolution of the Kreutz System. I. Two-Superfragment Model. *Zdenek Sekanina & Paul W. Chodas*. 607, 620 (2004)

Alphanumeric: C/1965 S1

Fragmentation Hierarchy of Bright Sungrazing Comets and the Birth and Orbital Evolution of the Kreutz System. I. Two-Superfragment Model. *Zdenek Sekanina & Paul W. Chodas*. 607, 620 (2004)

Alphanumeric: C/1970 K1

Fragmentation Hierarchy of Bright Sungrazing Comets and the Birth and Orbital Evolution of the Kreutz System. I. Two-Superfragment Model. *Zdenek Sekanina & Paul W. Chodas*. 607, 620 (2004)

Alphanumeric: X/1106 C1

Fragmentation Hierarchy of Bright Sungrazing Comets and the Birth and Orbital Evolution of the Kreutz System. I. Two-Superfragment Model. *Zdenek Sekanina & Paul W. Chodas*. 607, 620 (2004)

Name: 122P/de Vico

Using the Ultraviolet and Visible Spectrum of Comet 122P/de Vico to Identify the Parent Molecule CS₂. *William M. Jackson, Alessandra Scodinu, Dadong Xu, & Anita L. Cochran*. 607, L139 (2004)

CONDUCTION

Direct Numerical Simulations of Type Ia Supernovae Flames. I. The Landau-Darrieus Instability. *J. B. Bell, M. S. Day, C. A. Rendleman, S. E. Woosley, & M. Zingale*. 606, 1029 (2004)

The Linear Instability of Astrophysical Flames in Magnetic Fields. *L. J. Dursi*. 606, 1039 (2004)

Thermal Conduction in Simulated Galaxy Clusters. *K. Dolag, M. Jubelgas, V. Springel, S. Borgani, & E. Rasia*. 606, L97 (2004)

Magnetohydrodynamic Simulations of the Formation of Cold Fronts in Clusters of Galaxies Including Heat Conduction. *N. Asai, N. Fukuda, & R. Matsumoto*. 606, L105 (2004)

Direct Numerical Simulations of Type Ia Supernovae Flames. II. The Rayleigh-Taylor Instability. *J. B. Bell, M. S. Day, C. A. Rendleman, S. E. Woosley, & M. Zingale*. 608, 883 (2004)

CONVECTION

Models for Solar Abundance Stars with Gravitational Settling and Radiative Accelerations: Application to M67 and NGC 188. *G. Michaud, O. Richard, J. Richer, & Don A. Vandenberg*. 606, 452 (2004)

Modulation of Cosmic-Ray Electrons in a Nonspherical and Irregular Heliosphere. *S. E. S. Ferreira, M. S. Potgieter, & K. Scherer*. 607, 1014 (2004)

Overshoot at the Base of the Solar Convection Zone: A Semianalytical Approach. *M. Rempel*. 607, 1046 (2004)

The Spectrum of the Solar Supergranulation: Multiple Nonwave Components. *Mark P. Rast, Juon P. Lisle, & Juri Toomre*. 608, 1156 (2004)

Persistent North-South Alignment of the Solar Supergranulation. *Jason P. Lisle, Mark P. Rast, & Juri Toomre*. 608, 1167 (2004)

COSMOLOGY: COSMIC MICROWAVE BACKGROUND

Beyond the Damping Tail: Cross-Correlating the Kinetic Sunyaev-Zel'dovich Effect with Cosmic Shear. *Olivier Doré, Joseph F. Hennawi, & David N. Spergel*. 606, 46 (2004)

Magnetic Sunyaev-Zel'dovich Effect in Galaxy Clusters. *Jian Hu & Yu-Qing Lou*. 606, L1 (2004)

Free-Free Emission at Low Radio Frequencies. *Asantha Cooray & Steven R. Furlanetto*. 606, L5 (2004)

The Quest for Microwave Foreground X. *Angélica de Oliveira-Costa, Max Tegmark, R. D. Davies, Carlos M. Gutiérrez, A. N. Lasenby, R. Rebolo, & R. A. Watson*. 606, L89 (2004)

Reconstructing the Primordial Spectrum from WMAP Data by the Cosmic Inversion Method. *Noriyuki Kogo, Makoto Matsumiya, Misao Sasaki, & Jun'ichi Yokoyama*. 607, 32 (2004)

Asymmetries in the Local Curvature of the Wilkinson Microwave Anisotropy Probe Data. *Frode K. Hansen, Paolo Cabella, Domenico Marinucci, & Nicola Vittorio*. 607, L67 (2004)

First Year Wilkinson Microwave Anisotropy Probe Observations: Dark Energy Induced Correlation with Radio Sources. *M. R. Nolta, E. L. Wright, L. Page, C. L. Bennett, M. Halpern, G. Hinshaw, N. Jarosik, A. Kogut, M. Limon, S. S. Meyer, D. N. Spergel, G. S. Tucker, & E. Wollack*. 608, 10 (2004)

Effects of Preheated Clusters on the Cosmic Microwave Background Spectrum. *Kai-Yang Lin, Tak-Pong Woo, Yao-Huan Tseng, Lihwai Lin, & Tzihong Chiueh*. 608, L1 (2004)

The Dipole Anisotropy of the First All-Sky X-Ray Cluster Sample. *Dale D. Kocevski, Christopher R. Mullis, & Harald Ebeling*. 608, 721 (2004)

COSMOLOGY: COSMOLOGICAL PARAMETERS

Model-independent Constraints on Dark Energy Density from Flux-Averaging Analysis of Type Ia Supernova Data. *Yun Wang & Pia Mukherjee*. 606, 654 (2004)

Giant Arc Statistics in Concord with a Concordance Lambda Cold Dark Matter Universe. *Joachim Wambsganss, Paul Bode, & Jeremiah P. Ostriker*. 606, L93 (2004)

Cosmological Parameters from Eigenmode Analysis of Sloan Digital Sky Survey Galaxy Redshifts. *Adrian C. Pope, Takahiko Matsubara, Alexander S. Szalay, Michael R. Blanton, Daniel J. Eisenstein, Jim Gray, Bhuvnesh Jain, Neta A. Bahcall, Jon Brinkmann, Tamas Budavari, Andrew J. Connolly, Joshua A. Frieman, James E. Gunn, David Johnston, Stephen M. Kent, Robert H. Lupton, Avery Meiksin, Robert C. Nichol, Donald P. Schneider, Ryan Scranton, Michael A. Strauss, Istvan Szapudi, Max Tegmark, Michael S. Vogeley, David H. Weinberg, & Idit Zehavi*. 607, 655 (2004)

Cosmic Acceleration versus Axion-Photon Mixing. *Bruce A. Bassett & Martin Kunz*. 607, 661 (2004)

Constraints on Scalar-Field Dark Energy from the Cosmic Lens All-Sky Survey Gravitational Lens Statistics. *Kyu-Hyun Chae, Gang Chen, Bharat Ratra, & Dong-Wook Lee*. 607, L71 (2004)

The Effect of Metallicity on Cepheid-based Distances. *Shoko Sakai, Laura Ferrarese, Robert C. Kennicutt, Jr., & Abhijit Saha*. 608, 42 (2004)

A Deep Chandra Observation of the Distant Galaxy Cluster MS 1137.5+6625. *Laura Grego, Jan M. Vrtilik, Leon Van Speybroeck, Laurence P. David, William Forman, John E. Carlstrom, Erik D. Reese, & Marshall K. Joy*. 608, 731 (2004)

COSMOLOGY: DARK MATTER

Properties of Galaxy Dark Matter Halos from Weak Lensing. *Henk Hoekstra, H. K. C. Yee, & Michael D. Gladders*. 606, 67 (2004)

Molecular Hydrogen as Baryonic Dark Matter. *Andreas Heithausen*. 606, L13 (2004)

Structure of Dark Matter Halos from Hierarchical Clustering. III. Shallowing of the Inner Cusp. *Toshiyuki Fukushima, Atsushi Kawai, & Junichiro Makino*. 606, 625 (2004)

Direct Constraints on the Dark Matter Self-Interaction Cross Section from the Merging Galaxy Cluster 1E 0657–56. *M. Markevitch, A. H. Gonzalez, D. Clowe, A. Vikhlinin, W. Forman, C. Jones, S. Murray, & W. Tucker*. 606, 819 (2004)

Giant Arc Statistics in Concord with a Concordance Lambda Cold Dark Matter Universe. *Joachim Wambsganss, Paul Bode, & Jeremiah P. Ostriker*. 606, L93 (2004)

Halo Asphericity and the Shear Three-Point Function. *Shirley Ho & Martin White*. 607, 40 (2004)

- Spectroscopic Gravitational Lensing and Limits on the Dark Matter Substructure in Q2237+0305. *R. Benton Metcalf, Leonidas A. Moustakas, Andrew J. Bunker, & Ian R. Purry.* 607, 43 (2004)
- Density Profiles of Λ CDM Clusters. *Argyros Tsatsiomi, Andrey V. Kravtsov, Stefan Gottloeber, & Anatoly A. Klypin.* 607, 125 (2004)
- The Three-Point Correlation Function of Galaxies Determined from the Two-Degree Field Galaxy Redshift Survey. *Y. P. Jing & G. Börner.* 607, 140 (2004)
- Complex Structure of Galaxy Cluster A1689: Evidence for a Merger from X-Ray Data? *K. E. Andersson & G. M. Madejski.* 607, 190 (2004)
- Constraining the Magnetic Effects on H I Rotation Curves and the Need for Dark Halos. *F. J. Sánchez-Salcedo & M. Reyes-Ruiz.* 607, 247 (2004)
- Quiet-Sun X-Rays as Signature for New Particles. *K. Zioutas, K. Dennerl, L. DiLella, D. H. H. Hoffmann, J. Jacoby, & Th. Papaevangelou.* 607, 575 (2004)
- Resolving the Nature of the Large Magellanic Cloud Microlensing Event MACHO-LMC-5. *A. J. Drake, K. H. Cook, & S. C. Keller.* 607, L29 (2004)
- Flat-cored Dark Matter in Cuspy Clusters of Galaxies. *Amr A. El-Zant, Yehuda Hoffman, Joel Primack, Françoise Combes, & Isaac Shlosman.* 607, L75 (2004)
- Photoionized Gas in Dark-Matter Minihalos in the Galactic Halo and Local Group. *Orly Gnat & Amiel Sternberg.* 608, 229 (2004)
- Cosmological Density Distribution from the Ellipsoidal Collapse Model in Real Space. *Yasuhiro Ohta, Issha Kayo, & Atsushi Taniya.* 608, 647 (2004)
- Density Profiles of Cold Dark Matter Substructure: Implications for the Missing-Satellites Problem. *Stelios Kazantzidis, Lucio Mayer, Chiara Mastropietro, Jürg Diemand, Joachim Stadel, & Ben Moore.* 608, 663 (2004)
- TeV Gamma-Ray Observations of the Galactic Center. *K. Kosack, H. M. Badran, I. H. Bond, P. J. Boyle, S. M. Bradbury, J. H. Buckley, D. A. Carter-Lewis, O. Celik, V. Connaughton, W. Cui, M. Daniel, M. D'Vali, I. de la Calle Perez, C. Duke, A. Falcone, D. J. Fegan, S. J. Fegan, J. P. Finley, L. F. Fortson, J. A. Gaidos, S. Gammell, K. Gibbs, G. H. Gillanders, J. Grube, K. Gutierrez, J. Hall, T. A. Hall, D. Hanna, A. M. Hillas, J. Holder, D. Horan, A. Jarvis, M. Jordon, G. E. Kenny, M. Kertzman, D. Kieda, J. Kildea, J. Knapp, H. Krawczynski, F. Krennrich, M. J. Lang, S. Le Bohec, E. Linton, J. Lloyd-Evans, A. Milovanovic, J. McEnery, P. Moriarty, D. Muller, T. Nagai, S. Nolan, R. A. Ong, R. Palladini, D. Petry, B. Power-Mooney, J. Quinn, M. Quinn, K. Ragan, P. Rebillot, P. T. Reynolds, H. J. Rose, M. Schroeder, G. H. Sembroski, S. P. Swady, A. Syson, V. V. Vassiliiev, S. P. Wakely, G. Walker, T. C. Weekes, & J. Zweerink.* 608, L97 (2004)
- COSMOLOGY: DIFFUSE RADIATION**
- Ultraviolet Line Emission from Metals in the Low-Redshift Intergalactic Medium. *Steven R. Furlanetto, Joop Schaye, Volker Springel, & Lars Hernquist.* 606, 221 (2004)
- Free-Free Emission at Low Radio Frequencies. *Asantha Cooray & Steven R. Furlanetto.* 606, L5 (2004)
- First Star Signature in Infrared Background Anisotropies. *Asantha Cooray, James J. Bock, Brian Keating, Andrew E. Lange, & T. Matsumoto.* 606, 611 (2004)
- The Quest for Microwave Foreground X. *Angélica de Oliveira-Costa, Max Tegmark, R. D. Davies, Carlos M. Gutiérrez, A. N. Lasenby, R. Rebolo, & R. A. Watson.* 606, L89 (2004)
- Cosmic Star Formation History and the Future Observation of Supernova Relic Neutrinos. *Shin'ichiro Ando.* 607, 20 (2004)
- Detecting Population III Stars through Observations of Near-Infrared Cosmic Infrared Background Anisotropies. *A. Kashlinsky, R. Arendt, Jonathan P. Gardner, J. Mather, & S. Harvey Moseley.* 608, 1 (2004)
- Redshifted 21 Centimeter Emission from the Pre-reionization Era. I. Mean Signal and Linear Fluctuations. *Nikolay Y. Gnedin & Peter A. Shaver.* 608, 611 (2004)
- 21 Centimeter Fluctuations from Cosmic Gas at High Redshifts. *Matias Zaldarriaga, Steven R. Furlanetto, & Lars Hernquist.* 608, 622 (2004)
- COSMOLOGY: DISTANCE SCALE**
- Morphological Type Dependence in the Tully-Fisher Relationship. *David G. Russell.* 607, 241 (2004)
- Type Ia Supernova Discoveries at $z > 1$ from the Hubble Space Telescope: Evidence for Past Deceleration and Constraints on Dark Energy Evolution. *Adam G. Riess, Louis-Gregory Strolger, John Tonry, Stefano Casertano, Henry C. Ferguson, Bahram Mobasher, Peter Challis, Alexei V. Filippenko, Saurabh Jha, Weidong Li, Ryan Chornock, Robert P. Kirshner, Bruno Leibundgut, Mark Dickinson, Mario Livio, Mauro Giavalisco, Charles C. Steidel, Txixto Benítez, & Zlatan Tsvetanov.* 607, 665 (2004)
- The Effect of Metallicity on Cepheid-based Distances. *Shoko Sakai, Laura Ferrarese, Robert C. Kennicutt, Jr., & Abhijit Saha.* 608, 42 (2004)
- A Deep Chandra Observation of the Distant Galaxy Cluster MS 1137.5+6625. *Laura Grego, Jan M. Vrilek, Leon Van Speybroeck, Laurence P. David, William Forman, John E. Carlstrom, Erik D. Reese, & Marshall K. Joy.* 608, 731 (2004)
- COSMOLOGY: EARLY UNIVERSE**
- The Faintness of the 158 Micron [C II] Transition in the $z = 6.42$ Quasar SDSS J1148+5251. *Alberto D. Bolatto, James Di Francesco, & Chris J. Willott.* 606, L101 (2004)
- Rate Coefficient for $H^+ + H_2(X^1\Sigma_g^+, v = 0, J = 0) \rightarrow H(1s) + H_2^+$ Charge Transfer and Some Cosmological Implications. *Daniel Wolf Savin, Predrag S. Krstić, Zoltán Haiman, & Phillip C. Stancil.* 606, L167 (2004)
- COSMOLOGY: GRAVITATIONAL LENSING**
- Constraints on Scalar-Field Dark Energy from the Cosmic Lens All-Sky Survey Gravitational Lens Statistics. *Kyu-Hyun Chae, Gang Chen, Bharat Ratna, & Dong-Wook Lee.* 607, L71 (2004)
- COSMOLOGY: LARGE-SCALE STRUCTURE OF UNIVERSE**
- Eigenmode Analysis of Galaxy Distributions in Redshift Space. *Takahiko Matsubara, Alexander S. Szalay, & Adrian C. Pope.* 606, 1 (2004)
- The Size of the Longest Filaments in the Universe. *Somnath Bharadwaj, Suketu P. Bhavsar, & Jatish V. Sheth.* 606, 25 (2004)
- Free-Free Emission at Low Radio Frequencies. *Asantha Cooray & Steven R. Furlanetto.* 606, L5 (2004)
- Probing the Statistics of the Temperature-Density Relation of the Intergalactic Medium. *Taotao Fang & Martin White.* 606, L9 (2004)
- First Star Signature in Infrared Background Anisotropies. *Asantha Cooray, James J. Bock, Brian Keating, Andrew E. Lange, & T. Matsumoto.* 606, 611 (2004)
- The Three-dimensional Power Spectrum of Galaxies from the Sloan Digital Sky Survey. *Max Tegmark, Michael R. Blanton, Michael A. Strauss, Fiona Hoyle, David Schlegel, Roman Scoccimarro, Michael S. Vogeley, David H. Weinberg, Idit Zehavi, Andreas Berlind, Tamás Budavari, Andrew Connolly, Daniel J. Eisenstein, Douglas Finkbeiner, Joshua A. Frieman, James E. Gunn, Andrew J. S. Hamilton, Lam Hui, Bhuvnesh Jain, David Johnston, Stephen Kent, Huan Lin, Reiko Nakajima, Robert C. Nichol, Jeremiah P. Ostriker, Adrian Pope, Ryan Scranton, Uroš Seljak, Ravi K. Sheth, Albert Stebbins, Alexander S. Szalay, István Szapudi, Licia Verde, Yongzhong Xu, James Annis, Neta A. Bahcall, J. Brinkmann, Scott Burles, Francisco J. Castander, István Csabai, Jon Loveday, Mamoru Doi, Masataka Fukugita, J. Richard Gott III, Greg Hennessy, David W. Hogg, Željko Ivezić, Gillian R. Knapp, Don Q. Lamb, Brian C. Lee, Robert H. Lupton, Timothy A. Mackay, Peter Kunszt, Jeffrey A. Munn, Liam O'Connell, John Peoples, Jeffrey R. Pier, Michael Richmond, Constance Rockosi, Donald P. Schneider, Christopher Stoughton, Douglas L. Tucker, Daniel E. Vanden Berk, Brian Yanney, & Donald G. York.* 606, 702 (2004)
- Direct Constraints on the Dark Matter Self-Interaction Cross Section from the Merging Galaxy Cluster 1E 0657–56. *M. Markevitch, A. H. Gonzalez, D. Clowe, A. Vikhlinin, W. Forman, C. Jones, S. Murray, & W. Tucker.* 606, 819 (2004)
- The Three-Point Correlation Function of Galaxies Determined from the Two-Degree Field Galaxy Redshift Survey. *Y. P. Jing & G. Börner.* 607, 140 (2004)
- Gravitational Redshifts in Simulated Galaxy Clusters. *Young-Rae Kim & Rupert A. C. Croft.* 607, 164 (2004)
- Spectroscopic Confirmation of the C1 1604 Supercluster at $z \sim 0.9$. *R. R. Gal & L. M. Lubin.* 607, L1 (2004)
- Cosmological Parameters from Eigenmode Analysis of Sloan Digital Sky Survey Galaxy Redshifts. *Adrian C. Pope, Takahiko Matsubara, Alexander S. Szalay, Michael R. Blanton, Daniel J. Eisenstein, Jim Gray, Bhuvnesh Jain, Neta A. Bahcall, Jon Brinkmann, Tamás Budavari, Andrew J. Connolly, Joshua A. Frieman, James E. Gunn, David Johnston, Stephen M. Kent, Robert H. Lupton, Avery Meiksin, Robert C. Nichol, Donald P. Schneider, Ryan Scranton, Michael A. Strauss, István Szapudi, Max Tegmark, Michael S. Vogeley, David H. Weinberg, & Idit Zehavi.* 607, 655 (2004)

- Mock Catalogs for the DEEP2 Redshift Survey. *Renbin Yan, Martin White, & Alison L. Coil.* 607, 739 (2004)
- Voids in the Two-Degree Field Galaxy Redshift Survey. *Fiona Hoyle & Michael S. Vogeley.* 607, 751 (2004)
- Constraints on Scalar-Field Dark Energy from the Cosmic Lens All-Sky Survey Gravitational Lens Statistics. *Kyu-Hyun Chae, Gang Chen, Bharat Ratra, & Dong-Wook Lee.* 607, L71 (2004)
- The Clustering of XMM-Newton Hard X-Ray Sources. *S. Basilakos, A. Georgakakis, M. Plionis, & I. Georgantopoulos.* 607, L79 (2004)
- Detecting Population III Stars through Observations of Near-Infrared Cosmic Infrared Background Anisotropies. *A. Kashlinsky, R. Arendt, Jonathan P. Gardner, J. Mather, & S. Harvey Moseley.* 608, 1 (2004)
- On Departures from a Power Law in the Galaxy Correlation Function. *Idit Zehavi, David H. Weinberg, Zheng Zheng, Andreas A. Berlind, Joshua A. Frieman, Román Scoccimarro, Ravi K. Sheth, Michael R. Blanton, Max Tegmark, Houjun J. Mo, Neta A. Bahcall, Jon Brinkmann, Scott Burles, István Csabai, Masataka Fukugita, James E. Gunn, Don Q. Lamb, Jon Loveday, Robert H. Lupton, Avery Meiksin, Jeffrey A. Munn, Robert C. Nichol, David Schlegel, Donald P. Schneider, Mark SubbaRao, Alexander S. Szalay, Alan Uomoto, & Donald G. York.* 608, 16 (2004)
- Quasar Feedback: The Missing Link in Structure Formation. *Evan Scannapieco & S. Peng Oh.* 608, 62 (2004)
- Redshifted 21 Centimeter Emission from the Pre-reionization Era. I. Mean Signal and Linear Fluctuations. *Nikolay Y. Gnedin & Peter A. Shaver.* 608, 611 (2004)
- Gravitational Binding, Virialization, and the Peculiar Velocity Distribution of the Galaxies. *Bernard Leong & William C. Saslaw.* 608, 636 (2004)
- Cosmological Density Distribution Function from the Ellipsoidal Collapse Model in Real Space. *Yasuhiro Ohta, Issha Kayo, & Atsushi Taruya.* 608, 647 (2004)
- The Dipole Anisotropy of the First All-Sky X-Ray Cluster Sample. *Dale D. Kocevski, Christopher R. Mullis, & Harald Ebeling.* 608, 721 (2004)
- The Damping Wing of the Gunn-Peterson Absorption and Ly α Emitters in the Pre-Reionization Era. *Nikolay Y. Gnedin & Francisco Prada.* 608, L77 (2004)
- COSMOLOGY: MISCELLANEOUS**
- The Distribution of Metallicity in the Intergalactic Medium at $z \sim 2.5$: O VI and C IV Absorption in the Spectra of Seven QSOs. *Robert A. Simcoe, Wallace L. W. Sargent, & Michael Rauch.* 606, 92 (2004)
- COSMOLOGY: OBSERVATIONS**
- Beyond the Damping Tail: Cross-Correlating the Kinetic Sunyaev-Zel'dovich Effect with Cosmic Shear. *Olivier Doré, Joseph F. Hennawi, & David N. Spergel.* 606, 46 (2004)
- Properties of Galaxy Dark Matter Halos from Weak Lensing. *Henk Hoekstra, H. K. C. Yee, & Michael D. Gladders.* 606, 67 (2004)
- Further Multiwavelength Observations of the SSA 22 Ly α -emitting "Blob." *S. C. Chapman, D. Scott, R. A. Windhorst, D. T. Frayer, C. Borys, G. F. Lewis, & R. J. Ivison.* 606, 85 (2004)
- Model-independent Constraints on Dark Energy Density from Flux-Averaging Analysis of Type Ia Supernova Data. *Yun Wang & Pia Mukherjee.* 606, 654 (2004)
- The Abundance of Low-Luminosity Ly α Emitters at High Redshift. *Michael R. Santos, Richard S. Ellis, Jean-Paul Kneib, Johan Richard, & Konrad Kuijken.* 606, 683 (2004)
- Optical Limits on Precursor Emission from Gamma-Ray Bursts with Known Redshift. *C. Blake & J. S. Bloom.* 606, 1019 (2004)
- Gravitational Redshifts in Simulated Galaxy Clusters. *Young-Rae Kim & Rupert A. C. Croft.* 607, 164 (2004)
- Evolution of the Cluster X-Ray Luminosity Function. *C. R. Mullis, A. Vikhlinin, J. P. Henry, W. Forman, I. M. Gioia, A. Hornstrup, C. Jones, B. R. McNamara, & H. Quintana.* 607, 175 (2004)
- Type Ia Supernova Discoveries at $z > 1$ from the Hubble Space Telescope: Evidence for Past Deceleration and Constraints on Dark Energy Evolution. *Adam G. Riess, Louis-Gregory Strolger, John Tonry, Stefano Casertano, Henry C. Ferguson, Bahram Mobasher, Peter Challis, Alexei V. Filippenko, Saurabh Jha, Weidong Li, Ryan Chornock, Robert P. Kirshner, Bruno Leibundgut, Mark Dickinson, Mario Livio, Mauro Giavalisco, Charles C. Steidel, Txitxo Benitez, & Zlatan Tsvetanov.* 607, 665 (2004)
- A Probable $z \sim 7$ Galaxy Strongly Lensed by the Rich Cluster A2218: Exploring the Dark Ages. *Jean-Paul Kneib, Richard S. Ellis, Michael R. Santos, & Johan Richard.* 607, 697 (2004)
- The X-Ray-derived Cosmological Star Formation History and the Galaxy X-Ray Luminosity Functions in the Chandra Deep Fields North and South. *Colin Norman, Andrew Ptak, Ann Hornschemeier, Guenther Hasinger, Jacqueline Bergeron, Andrea Comastri, Riccardo Giacconi, Roberto Gilli, Karl Glazebrook, Tim Heckman, Lisa Kewley, Piero Ranalli, Piero Rosati, Gyula Szokoly, Paolo Tozzi, JunXian Wang, Wei Zheng, & Andrew Zirm.* 607, 721 (2004)
- Voids in the Two-Degree Field Galaxy Redshift Survey. *Fiona Hoyle & Michael S. Vogeley.* 607, 751 (2004)
- Asymmetries in the Local Curvature of the Wilkinson Microwave Anisotropy Probe Data. *Frode K. Hansen, Paolo Cabella, Domenico Marinucci, & Nicola Vittorio.* 607, L67 (2004)
- Constraints on Scalar-Field Dark Energy from the Cosmic Lens All-Sky Survey Gravitational Lens Statistics. *Kyu-Hyun Chae, Gang Chen, Bharat Ratra, & Dong-Wook Lee.* 607, L71 (2004)
- The Clustering of XMM-Newton Hard X-Ray Sources. *S. Basilakos, A. Georgakakis, M. Plionis, & I. Georgantopoulos.* 607, L79 (2004)
- Detecting Population III Stars through Observations of Near-Infrared Cosmic Infrared Background Anisotropies. *A. Kashlinsky, R. Arendt, Jonathan P. Gardner, J. Mather, & S. Harvey Moseley.* 608, 1 (2004)
- First Year Wilkinson Microwave Anisotropy Probe Observations: Dark Energy Induced Correlation with Radio Sources. *M. R. Nolta, E. L. Wright, L. Page, C. L. Bennett, M. Halpern, G. Hinshaw, N. Jarosik, A. Kogut, M. Limon, S. S. Meyer, D. N. Spergel, G. S. Tucker, & E. Wollack.* 608, 10 (2004)
- On Departures from a Power Law in the Galaxy Correlation Function. *Idit Zehavi, David H. Weinberg, Zheng Zheng, Andreas A. Berlind, Joshua A. Frieman, Román Scoccimarro, Ravi K. Sheth, Michael R. Blanton, Max Tegmark, Houjun J. Mo, Neta A. Bahcall, Jon Brinkmann, Scott Burles, István Csabai, Masataka Fukugita, James E. Gunn, Don Q. Lamb, Jon Loveday, Robert H. Lupton, Avery Meiksin, Jeffrey A. Munn, Robert C. Nichol, David Schlegel, Donald P. Schneider, Mark SubbaRao, Alexander S. Szalay, Alan Uomoto, & Donald G. York.* 608, 16 (2004)
- The Counterarc to MS 1512-cB58 and a Companion Galaxy. *Harry I. Teplitz, Matthew A. Malkan, & Ian S. McLean.* 608, 36 (2004)
- XMM-Newton Observation of the Merging Galaxy Cluster A1644. *Thomas H. Reiprich, Craig L. Sarazin, Joshua C. Kempner, & Eric Tittley.* 608, 179 (2004)
- A Deep Chandra Observation of the Distant Galaxy Cluster MS 1137.5+6625. *Laura Grego, Jan M. Vrtilik, Leon Van Speybroeck, Laurence P. David, William Forman, John E. Carlstrom, Erik D. Reese, & Marshall K. Joy.* 608, 731 (2004)
- The Munich Near-Infrared Cluster Survey (MUNICS). VI. The Stellar Masses of K-Band-Selected Field Galaxies to $z \sim 1.2$. *N. Drory, R. Bender, G. Feulner, U. Hopp, C. Maraston, J. Snigula, & G. J. Hill.* 608, 742 (2004)
- COSMOLOGY: THEORY**
- Eigenmode Analysis of Galaxy Distributions in Redshift Space. *Takahiko Matsubara, Alexander S. Szalay, & Adrian C. Pope.* 606, 1 (2004)
- The Size of the Longest Filaments in the Universe. *Somnath Bharadwaj, Suketu P. Bhavsar, & Jatish V. Sheth.* 606, 25 (2004)
- Beyond the Damping Tail: Cross-Correlating the Kinetic Sunyaev-Zel'dovich Effect with Cosmic Shear. *Olivier Doré, Joseph F. Hennawi, & David N. Spergel.* 606, 46 (2004)
- Ultraviolet Line Emission from Metals in the Low-Redshift Intergalactic Medium. *Steven R. Furlanetto, Joop Schaye, Volker Springel, & Lars Hernquist.* 606, 221 (2004)
- Magnetic Sunyaev-Zel'dovich Effect in Galaxy Clusters. *Jian Hu & Yu-Qing Lou.* 606, L1 (2004)
- Probing the Statistics of the Temperature-Density Relation of the Intergalactic Medium. *Taotao Fang & Martin White.* 606, L9 (2004)
- The Effect of Gravitational-Wave Recoil on the Demography of Massive Black Holes. *Piero Madau & Eliot Quataert.* 606, L17 (2004)
- First Star Signature in Infrared Background Anisotropies. *Asantha Cooray, James J. Bock, Brian Keating, Andrew E. Lange, & T. Matsumoto.* 606, 611 (2004)
- Structure of Dark Matter Halos from Hierarchical Clustering. III. Shallowing of the Inner Cusp. *Toshiyuki Fukushige, Atsushi Kawai, & Junichiro Makino.* 606, 625 (2004)
- Formation of Cool Cores in Galaxy Clusters via Hierarchical Mergers. *Patrick M. Motl, Jack O. Burns, Chris Loken, Michael L. Norman, & Greg Bryan.* 606, 635 (2004)

- Thermal Conduction in Simulated Galaxy Clusters. *K. Dolag, M. Jubelgas, V. Springel, S. Borgani, & E. Rasia.* 606, L97 (2004)
- Reconstructing the Primordial Spectrum from WMAP Data by the Cosmic Inversion Method. *Noriyuki Kogo, Makoto Matsumiya, Misao Sasaki, & Jun'ichi Yokoyama.* 607, 32 (2004)
- Density Profiles of Λ CDM Clusters. *Argyros Tasitsiomi, Andrey V. Kravtsov, Stefan Gottloeber, & Anatoly A. Klypin.* 607, 125 (2004)
- The Three-Point Correlation Function of Galaxies Determined from the Two-Degree Field Galaxy Redshift Survey. *Y. P. Jing & G. Börner.* 607, 140 (2004)
- Cosmological Parameters from Eigenmode Analysis of Sloan Digital Sky Survey Galaxy Redshifts. *Adrian C. Pope, Takahiko Matsubara, Alexander S. Szalay, Michael R. Blanton, Daniel J. Eisenstein, Jim Gray, Bhuvnesh Jain, Neta A. Bahcall, Jon Brinkmann, Tamas Budavari, Andrew J. Connolly, Joshua A. Frieman, James E. Gunn, David Johnston, Stephen M. Kent, Robert H. Lupton, Avery Meiksin, Robert C. Nichol, Donald P. Schneider, Ryan Scranton, Michael A. Strauss, Istvan Szapudi, Max Tegmark, Michael S. Vogeley, David H. Weinberg, & Idit Zehavi.* 607, 655 (2004)
- Cosmic Acceleration versus Axion-Photon Mixing. *Bruce A. Bassett & Martin Kunz.* 607, 661 (2004)
- Mock Catalogs for the DEEP2 Redshift Survey. *Renbin Yan, Martin White, & Alison L. Coil.* 607, 739 (2004)
- The Role of Gas in the Merging of Massive Black Holes in Galactic Nuclei. I. Black Hole Merging in a Spherical Gas Cloud. *Andrés Escala, Richard B. Larson, Paolo S. Coppi, & Diego Mardones.* 607, 765 (2004)
- Detecting Population III Stars through Observations of Near-Infrared Cosmic Infrared Background Anisotropies. *A. Kashlinsky, R. Arendt, Jonathan P. Gardner, J. Mather, & S. Harvey Moseley.* 608, 1 (2004)
- On Departures from a Power Law in the Galaxy Correlation Function. *Idit Zehavi, David H. Weinberg, Zheng Zheng, Andreas A. Berlind, Joshua A. Frieman, Román Scoccimarro, Ravi K. Sheth, Michael R. Blanton, Max Tegmark, Houjun J. Mo, Neta A. Bahcall, Jon Brinkmann, Scott Burles, István Csabai, Masataka Fukugita, James E. Gunn, Don Q. Lamb, Jon Loveday, Robert H. Lupton, Avery Meiksin, Jeffrey A. Munn, Robert C. Nichol, David Schlegel, Donald P. Schneider, Mark SubbaRao, Alexander S. Szalay, Alan Uomoto, & Donald G. York.* 608, 16 (2004)
- Quasar Feedback: The Missing Link in Structure Formation. *Evan Scannapieco & S. Peng Oh.* 608, 62 (2004)
- Effects of Preheated Clusters on the Cosmic Microwave Background Spectrum. *Kai-Yang Lin, Tak-Pong Woo, Yao-Huan Tseng, Lihwai Lin, & Tzihong Chiueh.* 608, L1 (2004)
- Redshifted 21 Centimeter Emission from the Pre-reionization Era. I. Mean Signal and Linear Fluctuations. *Nikolay Y. Gnedin & Peter A. Shaver.* 608, 611 (2004)
- 21 Centimeter Fluctuations from Cosmic Gas at High Redshifts. *Matias Zaldarriaga, Steven R. Furlanetto, & Lars Hernquist.* 608, 622 (2004)
- Gravitational Binding, Virialization, and the Peculiar Velocity Distribution of the Galaxies. *Bernard Leong & William C. Saslaw.* 608, 636 (2004)
- Cosmological Density Distribution Function from the Ellipsoidal Collapse Model in Real Space. *Yasuhiro Ohta, Issha Kayo, & Atsushi Taruya.* 608, 647 (2004)
- Density Profiles of Cold Dark Matter Substructure: Implications for the Missing-Satellites Problem. *Stelios Kazantzidis, Lucio Mayer, Chiara Mastropietro, Jürg Diemand, Joachim Stadel, & Ben Moore.* 608, 663 (2004)
- The Damping Wing of the Gunn-Peterson Absorption and Ly α Emitters in the Pre-Reionization Era. *Nikolay Y. Gnedin & Francisco Prada.* 608, L77 (2004)
- DENSE MATTER**
- Constraining Alternate Models of Black Holes: Type I X-Ray Bursts on Accreting Fermion-Fermion and Boson-Fermion Stars. *Ye-Fei Yuan, Ramesh Narayan, & Martin J. Rees.* 606, 1112 (2004)
- Opaque or Transparent? A Link between Neutrino Optical Depths and the Characteristic Duration of Short Gamma-Ray Bursts. *William H. Lee, Enrico Ramirez-Ruiz, & Dany Page.* 608, L5 (2004)
- The Effects of Rotation on Thermal X-Ray Afterglows Resulting from Pulsar Glitches. *C. Y. Hui & K. S. Cheng.* 608, 935 (2004)
- Nucleation of Quark Matter in Neutron Star Cores. *T. Harko, K. S. Cheng, & P. S. Tang.* 608, 945 (2004)

DIFFUSION

- Models for Solar Abundance Stars with Gravitational Settling and Radiative Accelerations: Application to M67 and NGC 188. *G. Michaud, O. Richard, J. Richer, & Don A. Vandenberg.* 606, 452 (2004)
- Formation and Collapse of Nonaxisymmetric Protostellar Cores in Planar Magnetic Molecular Clouds. *Shantanu Basu & Glenn E. Colek.* 607, L39 (2004)
- Modulation of Cosmic-Ray Electrons in a Nonspherical and Irregular Heliosphere. *S. E. S. Ferreira, M. S. Potgieter, & K. Scherer.* 607, 1014 (2004)
- The Luminosity Function and Color-Magnitude Diagram of the Globular Cluster M12. *Jonathan R. Hargis, Eric L. Sandquist, & Michael Bolte.* 608, 243 (2004)

ELEMENTARY PARTICLES

- The Inner Annular Gap for Pulsar Radiation: γ -Ray and Radio Emission. *G. J. Qiao, K. J. Lee, H. G. Wang, R. X. Xu, & J. L. Han.* 606, L49 (2004)
- Quiet-Sun X-Rays as Signature for New Particles. *K. Zioutas, K. Dennerl, L. DiLella, D. H. H. Hoffmann, J. Jacoby, & Th. Papaevangelou.* 607, 575 (2004)
- Cosmic Acceleration versus Axion-Photon Mixing. *Bruce A. Bassett & Martin Kunz.* 607, 661 (2004)

EQUATION OF STATE

- Effects of Helium Phase Separation on the Evolution of Extrasolar Giant Planets. *Jonathan J. Fortney & W. B. Hubbard.* 608, 1039 (2004)

EPHEMERIDES

- Fine-Tuning the Accretion Disk Clock in Hercules X-1. *M. Still & P. Boyd.* 606, L135 (2004)

ERRATA, ADDENDA

- Erratum: The Luminosity Function of IRAS Point Source Catalog Redshift Survey Galaxies (ApJ, 587, L89 [2003]). *Tsutomu T. Takeuchi, Kohji Yoshikawa, & Takako T. Ishii.* 606, L171 (2004) (Orig. paper in 587, L89 [2003])
- Erratum: A Circumstellar Disk in a High-Mass Star-forming Region (ApJ, 603, L113 [2003]). *Michele R. Pestalozzi, Moshe Elitzur, John E. Conway, & Roy S. Booth.* 606, L173 (2004) (Orig. paper in 606, L173 [2004])
- Erratum: Stellar Halo Parameters from 4588 Subdwarfs (ApJ, 538, 765 [2003]). *Andrew Gould.* 607, 653 (2004) (Orig. paper in 583, 765 [2003])
- Erratum: Magnetohydrodynamic Waves in Sheared Coronal Arcades (ApJ, 602, 1006 [2004]). *I. Arregui, R. Oliver, & J. L. Ballester.* 607, 1070 (2004) (Orig. paper in 602, 1006 [2004])
- Erratum: Resolving the Effects of Resonant X-Ray Line Scattering in Centaurus X-3 with Chandra (ApJ, 582, 959 [2003]). *Patrick S. Wojdowski, Duane A. Liedahl, Masao Sako, Steven M. Kahn, & Frederik Paerels.* 607, 1071 (2004) (Orig. paper in 582, 959 [2003])
- Erratum: Rate Coefficient for $H^+ + H_2(X^1\Sigma_g^+, \nu = 0, J = 0) \rightarrow H(1s) + H_2^+$ Charge Transfer and Some Cosmological Implications (ApJ, 606, L167 [2004]). *Daniel Wolf Savin, Predrag S. Krstić, Zoltán Haiman, & Phillip C. Stancil.* 607, L147 (2004) (Orig. paper in 606, L167 [2004])
- Erratum: Looking for Gravity-Mode Multiplets with the GOLF Experiment aboard SOHO (ApJ, 604, 455 [2004]). *S. Turk-Chièze, R. A. García, S. Couvidat, R. K. Ulrich, L. Bertello, F. Varadi, A. G. Kosovichev, A. H. Gabriel, G. Berthomieu, A. S. Brun, I. Lopes, P. Pallé, J. Provost, J. M. Robillot, & T. Roca Cortés.* 608, 610 (2004) (Orig. paper in 604, 455 [2004])
- Erratum: Arc Statistics in Triaxial Dark Matter Halos: Testing the Collisionless Cold Dark Matter Paradigm (ApJ, 599, 7 [2003]). *Masamune Oguri, Jounghun Lee, & Yasushi Suto.* 608, 1175 (2004) (Orig. paper in 599, 7 [2003])

GALAXIES: ABUNDANCES

- Constraints on Early Nucleosynthesis from the Abundance Pattern of a Damped Ly α System at $z = 2.626$. *Yeshe Fenner, Jason X. Prochaska, & Brad K. Gibson.* 606, 116 (2004)
- Stellar and Gaseous Abundances in M82. *L. Origlia, P. Ranalli, A. Comastri, & R. Maiolino.* 606, 862 (2004)
- The First Measured Electron Temperatures for Metal-rich H II Regions in M51. *Donald R. Garnett, Robert C. Kennicutt, Jr., & Fabio Bresolin.* 607, L21 (2004)

GALAXIES: ACTIVE

- X-Ray Evolution of Active Galactic Nuclei and Hierarchical Galaxy Formation. *N. Menci, F. Fiore, G. C. Perola, & A. Cavaliere.* 606, 58 (2004)

- Gemini Imaging of QSO Host Galaxies at $z \sim 2$. Scott M. Croom, David Schade, Brian J. Boyle, Tom Shanks, Lance Miller, & Robert J. Smith. 606, 126 (2004)
- Cosmological Growth History of Supermassive Black Holes and Demographics in the High- z Universe: Do Lyman Break Galaxies Have Supermassive Black Holes? Takashi Hosokawa. 606, 139 (2004)
- Relativistic O VIII Emission and Ionized Outflow in NGC 4051 Measured with XMM-Newton. P. M. Ogle, K. O. Mason, M. J. Page, N. J. Salvi, F. A. Cordova, I. M. McHardy, & W. C. Priedhorsky. 606, 151 (2004)
- $M_{\text{BH}}-\sigma$ Relation for a Complete Sample of Soft X-Ray-selected Active Galactic Nuclei. Dirk Grupe & Smita Mathur. 606, L41 (2004)
- New Quasars Detected via Variability in the QUEST1 Survey. A. W. Rengstorff, S. L. Mufson, C. Abad, B. Adams, P. Andrews, C. Bailyn, C. Baltay, A. Bongiovanni, C. Briceño, G. Bruzual, P. Coppi, F. Della Prugna, W. Emmet, I. Ferrín, F. Fuenmayor, M. Gebhard, J. Hernández, R. K. Honeycutt, G. Magris, J. Musser, O. Naranjo, A. Oemler, P. Rosenzweig, C. N. Sabbey, Ge. Sánchez, Gu. Sánchez, B. Schaefer, H. Schenker, J. Sinnott, J. A. Snyder, S. Sofia, J. Stock, W. van Altena, & A. K. Vivas. 606, 741 (2004)
- What the Optical Recombination Lines Can Tell Us about the Broad-Line Regions of Active Galactic Nuclei. Kirk T. Korista & Michael R. Goad. 606, 749 (2004)
- Reasoning From Fossils: Learning From the Local Black Hole Population About the Evolution of Quasars. Zoltan Haiman, Luca Ciotti, & Jeremiah P. Ostriker. 606, 763 (2004)
- On the Nature of the Variable Infrared Emission from Sagittarius A*. Feng Yuan, Eliot Quataert, & Ramesh Narayan. 606, 894 (2004)
- Non-LTE Curves of Growth of X-Ray Absorption Lines. Kuniaki Masai & Manabu Ishida. 607, 76 (2004)
- A Search for Short-Timescale Microvariability in Active Galactic Nuclei In the Ultraviolet. Joseph F. Dolan & L. Lee Clark. 607, 84 (2004)
- POX 52: A Dwarf Seyfert 1 Galaxy with an Intermediate-Mass Black Hole. Aaron J. Barth, Luis C. Ho, Robert E. Rutledge, & Wallace L. W. Sargent. 607, 90 (2004)
- Comparison of Bar Strengths and Fractions of Bars in Active and Nonactive Galaxies. Eija Laurikainen, Heikki Salo, & Ronald Buta. 607, 103 (2004)
- High-Energy Gamma-Ray Observations of W Comae with the Solar Tower Atmospheric Cerenkov Effect Experiment (STACEE). R. A. Scalzo, L. M. Boone, D. Bramel, J. Carson, C. E. Covault, P. Fortin, G. Gauthier, D. M. Gingrich, D. Hanna, A. Jarvis, J. Kildea, T. Lindner, C. Mueller, R. Mukherjee, R. A. Ong, K. J. Ragan, D. A. Williams, & J. Zweerink. 607, 778 (2004)
- Iron K α Emission from the Low-Luminosity Active Galaxies M81 and NGC 4579. G. C. Dewangan, R. E. Griffiths, T. Di Matteo, & N. J. Schurch. 607, 788 (2004)
- A Systematic Study of Radio-induced X-Ray Cavities in Clusters, Groups, and Galaxies. L. Birzan, D. A. Rafferty, B. R. McNamara, M. W. Wise, & P. E. J. Nulsen. 607, 800 (2004)
- The Clustering of XMM-Newton Hard X-Ray Sources. S. Basilakos, A. Georgakakis, M. Plionis, & I. Georgantopoulos. 607, L79 (2004)
- The Hot Disk Corona and Magnetic Turbulence in Radio-quiet Active Galactic Nuclei: Observational Constraints. Jian-Min Wang, Ken-Ya Watarai, & Shin Mineshige. 607, L107 (2004)
- ROSAT and ASCA Observations of the Narrow-Line Seyfert 1 Galaxy RX J0136.9–3510: Blueshifted Fe K α Line and Extended Soft X-Ray Emission. Kajal K. Ghosh, Douglas A. Swartz, Allyn F. Tennant, Kinwah Wu, & Brian D. Ramsey. 607, L111 (2004)
- Active Galactic Nuclei Emission-Line Properties versus the Eddington Ratio. Craig Warner, Fred Hamann, & Matthias Dietrich. 608, 136 (2004)
- High-Resolution X-Ray Spectroscopy of the Fe K Complex in IC 4329A. Barry McKernan & Tahir Yaqoob. 608, 157 (2004)
- X-Ray Nondetection of the Ly α Emitters at $z \sim 4.5$. J. X. Wang, J. E. Rhoads, S. Malhotra, S. Dawson, D. Stern, A. Dey, T. M. Heckman, C. A. Norman, & H. Spinrad. 608, L21 (2004)
- TeV Gamma-Ray Survey of the Northern Hemisphere Sky Using the Milagro Observatory. R. Atkins, W. Benbow, D. Berley, E. Blaufuss, J. Bussions, D. G. Coyne, T. DeYoung, B. L. Dingus, D. E. Dorfan, R. W. Ellsworth, L. Fleysheer, R. Fleysheer, G. Giesler, M. M. Gonzalez, J. A. Goodman, T. J. Haines, E. Hays, C. M. Hoffman, L. A. Kelley, C. P. Lansdell, J. T. Linnemann, J. E. McEnery, R. S. Miller, A. I. Mincer, M. F. Morales, P. Nemethy, D. Noyes, J. M. Ryan, F. W. Samuelson, A. Shoup, G. Sinnis, A. J. Smith, G. W. Sullivan, D. A. Williams, S. Westerhoff, M. E. Wilson, X. W. Xu, & G. B. Yodh. 608, 680 (2004)
- Detecting the Attenuation of Blazar Gamma-Ray Emission by Extragalactic Background Light with the Gamma-Ray Large Area Space Telescope. Andrew Chen, Luis C. Reyes, & Steven Ritz. 608, 686 (2004)
- A Survey of Extended Radio Jets with Chandra and the Hubble Space Telescope. Rita M. Sambruna, Jessica K. Gambill, L. Maraschi, F. Tavecchio, R. Cerutti, C. C. Cheung, C. Megan Urry, & G. Chartas. 608, 698 (2004)
- GALAXIES: BL LACERTAE OBJECTS: GENERAL**
- The Gamma-Ray Bright BL Lacertae Object RX J1211+2242. V. Beckmann, P. Favre, F. Tavecchio, T. Bussien, J. Fliri, & A. Wolter. 608, 692 (2004)
- GALAXIES: BL LACERTAE OBJECTS: INDIVIDUAL**
- Name: W Comae**
- High-Energy Gamma-Ray Observations of W Comae with the Solar Tower Atmospheric Cerenkov Effect Experiment (STACEE). R. A. Scalzo, L. M. Boone, D. Bramel, J. Carson, C. E. Covault, P. Fortin, G. Gauthier, D. M. Gingrich, D. Hanna, A. Jarvis, J. Kildea, T. Lindner, C. Mueller, R. Mukherjee, R. A. Ong, K. J. Ragan, D. A. Williams, & J. Zweerink. 607, 778 (2004)
- Alphanumeric: OJ 287**
- Structure of OJ 287 from Geodetic Very Long Baseline Array Data. Claudio E. Tateyama & Kerry A. Kingham. 608, 149 (2004)
- Alphanumeric: RX J1211+2242**
- The Gamma-Ray Bright BL Lacertae Object RX J1211+2242. V. Beckmann, P. Favre, F. Tavecchio, T. Bussien, J. Fliri, & A. Wolter. 608, 692 (2004)
- GALAXIES: BULGES**
- $M_{\text{BH}}-\sigma$ Relation for a Complete Sample of Soft X-Ray-selected Active Galactic Nuclei. Dirk Grupe & Smita Mathur. 606, L41 (2004)
- Comparison of Bar Strengths and Fractions of Bars in Active and Nonactive Galaxies. Eija Laurikainen, Heikki Salo, & Ronald Buta. 607, 103 (2004)
- GALAXIES: CLUSTERS: GENERAL**
- Eigenmode Analysis of Galaxy Distributions in Redshift Space. Takahiko Matsubara, Alexander S. Scalay, & Adrian C. Pope. 606, 1 (2004)
- Magnetic Sunyaev-Zel'dovich Effect in Galaxy Clusters. Jian Hu & Yu-Qing Lou. 606, L1 (2004)
- Structure of Dark Matter Halos from Hierarchical Clustering. III. Shallowing of the Inner Cusp. Toshiyuki Fukushima, Atsushi Kawai, & Junichiro Makino. 606, 625 (2004)
- Formation of Cool Cores in Galaxy Clusters via Hierarchical Mergers. Patrick M. Motl, Jack O. Burns, Chris Loken, Michael L. Norman, & Greg Bryan. 606, 635 (2004)
- Spectral Analysis of Rossi X-Ray Timing Explorer Observations of A3667. Yoel Rephaeli & Duane Gruber. 606, 825 (2004)
- Giant Arc Statistics in Concord with a Concordance Lambda Cold Dark Matter Universe. Joachim Wambsganss, Paul Bode, & Jeremiah P. Ostriker. 606, L93 (2004)
- Thermal Conduction in Simulated Galaxy Clusters. K. Dolag, M. Juelgas, V. Springel, S. Borgani, & E. Rasia. 606, L97 (2004)
- Density Profiles of Λ CDM Clusters. Argyro Tasitsiomi, Andrey V. Kravtsov, Stefan Gottloeber, & Anatoly A. Klypin. 607, 125 (2004)
- The Three-Point Correlation Function of Galaxies Determined from the Two-Degree Field Galaxy Redshift Survey. Y. P. Jing & G. Börner. 607, 140 (2004)
- Gravitational Redshifts in Simulated Galaxy Clusters. Young-Rae Kim & Rupert A. C. Croft. 607, 164 (2004)
- Evolution of the Cluster X-Ray Luminosity Function. C. R. Mullis, A. Vikhlinin, J. P. Henry, W. Forman, I. M. Gioia, A. Hornstrup, C. Jones, B. R. McNamara, & H. Quintana. 607, 175 (2004)
- A Redshift Survey of Nearby Galaxy Groups: The Shape of the Mass Density Profile. Andisheh Mahdavi & Margaret J. Geller. 607, 202 (2004)
- Spectroscopic Confirmation of the Cl 1604 Supercluster at $z \sim 0.9$. R. R. Gal & L. M. Lubin. 607, L1 (2004)
- A Systematic Study of Radio-induced X-Ray Cavities in Clusters, Groups, and Galaxies. L. Birzan, D. A. Rafferty, B. R. McNamara, M. W. Wise, & P. E. J. Nulsen. 607, 800 (2004)
- Flat-cored Dark Matter in Cuspy Clusters of Galaxies. Amr A. El-Zant, Yehuda Hoffman, Joel Primack, Francoise Combes, & Isaac Shlosman. 607, L75 (2004)
- The Diffuse Light in Simulations of Galaxy Clusters. G. Murante, M. Arnaboldi, O. Gerhard, S. Borgani, L. M. Cheng, A. Diaferio, K. Dolag, L. Moscardini, G. Tormen, L. Tornatore, & P. Tozzi. 607, L83 (2004)

- Nonthermal Hard X-Ray Emission in Galaxy Clusters Observed with the *BeppoSAX* Phoswich Detector System. *J. Nevalainen, T. Oosterbroek, M. Bonamente, & S. Colafrancesco.* 608, 166 (2004)
- XMM-Newton Observation of the Merging Galaxy Cluster A1644. *Thomas H. Reiprich, Craig L. Sarazin, Joshua C. Kempner, & Eric Tittley.* 608, 179 (2004)
- Gravitational Binding, Virialization, and the Peculiar Velocity Distribution of the Galaxies. *Bernard Leong & William C. Saslaw.* 608, 636 (2004)
- Cosmological Density Distribution Function from the Ellipsoidal Collapse Model in Real Space. *Yasuhiro Ohta, Issha Kayo, & Atsushi Taruya.* 608, 647 (2004)
- The Dipole Anisotropy of the First All-Sky X-Ray Cluster Sample. *Dale D. Kocevski, Christopher R. Mullis, & Harald Ebeling.* 608, 721 (2004)
- A Deep Chandra Observation of the Distant Galaxy Cluster MS 1137.5+6625. *Laura Grego, Jan M. Vrtillek, Leon Van Speybroeck, Laurence P. David, William Forman, John E. Carlstrom, Erik D. Reese, & Marshall K. Joy.* 608, 731 (2004)
- GALAXIES: CLUSTERS: INDIVIDUAL**
- Name: Abell 1644**
- XMM-Newton Observation of the Merging Galaxy Cluster A1644. *Thomas H. Reiprich, Craig L. Sarazin, Joshua C. Kempner, & Eric Tittley.* 608, 179 (2004)
- Name: Abell 1689**
- Complex Structure of Galaxy Cluster A1689: Evidence for a Merger from X-Ray Data? *K. E. Andersson & G. M. Madejski.* 607, 190 (2004)
- Name: Abell 4059**
- Observations of A4059 with the Chandra, Hubble Space Telescope, and the Very Large Array: Unraveling a Complex Cluster/Radio Galaxy Interaction. *Yun-Young Choi, Christopher S. Reynolds, Sebastian Heinz, Jessica L. Rosenberg, Eric S. Perlman, & Jongmann Yang.* 606, 185 (2004)
- Name: Virgo**
- X-Ray Triple Rings around the M87 Jets in the Central Virgo Cluster. *Hua Feng, Shuang-Nan Zhang, Yu-Qing Lou, & Ti-Pei Li.* 607, L95 (2004)
- Alphanumeric: A576**
- A Chandra Study of the Core of the Nearby Cluster A576. *Joshua C. Kempner & Laurence P. David.* 607, 220 (2004)
- Alphanumeric: A2256**
- Spectral Analysis of Rossi X-Ray Timing Explorer Observations of A3667. *Yoel Rephueli & Duane Gruber.* 606, 825 (2004)
- Alphanumeric: 1E 0657–56**
- Direct Constraints on the Dark Matter Self-Interaction Cross Section from the Merging Galaxy Cluster 1E 0657–56. *M. Markevitch, A. H. Gonzalez, D. Clowe, A. Vikhlinin, W. Forman, C. Jones, S. Murray, & W. Tucker.* 606, 819 (2004)
- Alphanumeric: MKW 4**
- Very High Iron Abundance of the Hot Gas around the cD Galaxy of the MKW 4 Cluster. *Yasushi Fukazawa, Naomi Kawano, & Kengo Kawashima.* 606, L109 (2004)
- Alphanumeric: MS 1137.5+6625**
- A Deep Chandra Observation of the Distant Galaxy Cluster MS 1137.5+6625. *Laura Grego, Jan M. Vrtillek, Leon Van Speybroeck, Laurence P. David, William Forman, John E. Carlstrom, Erik D. Reese, & Marshall K. Joy.* 608, 731 (2004)
- GALAXIES: COOLING FLOWS**
- Formation of Cool Cores in Galaxy Clusters via Hierarchical Mergers. *Patrick M. Motl, Jack O. Burns, Chris Loken, Michael L. Norman, & Greg Bryan.* 606, 635 (2004)
- A Chandra Study of the Core of the Nearby Cluster A576. *Joshua C. Kempner & Laurence P. David.* 607, 220 (2004)
- Ultralow Iron Abundances in the Distant Hot Gas in Galaxy Groups. *David A. Buote, Fabrizio Brighenti, & William G. Mathews.* 607, L91 (2004)
- XMM-Newton Observation of the Merging Galaxy Cluster A1644. *Thomas H. Reiprich, Craig L. Sarazin, Joshua C. Kempner, & Eric Tittley.* 608, 179 (2004)
- GALAXIES: DISTANCES AND REDSHIFTS**
- Eigenmode Analysis of Galaxy Distributions in Redshift Space. *Takahiko Matsubara, Alexander S. Szalay, & Adrian C. Pope.* 606, 1 (2004)
- Variations in Star Formation History and the Red Giant Branch Tip. *Michael K. Barker, Ata Sarajedini, & Jason Harris.* 606, 869 (2004)
- The Three-Point Correlation Function of Galaxies Determined from the Two-Degree Field Galaxy Redshift Survey. *Y. P. Jing & G. Börner.* 607, 140 (2004)
- Morphological Type Dependence in the Tully-Fisher Relationship. *David G. Russell.* 607, 241 (2004)
- Cosmological Parameters from Eigenmode Analysis of Sloan Digital Sky Survey Galaxy Redshifts. *Adrian C. Pope, Takahiko Matsubara, Alexander S. Szalay, Michael R. Blanton, Daniel J. Eisenstein, Jim Gray, Bhuvnesh Jain, Neta A. Bahcall, Jon Brinkmann, Tamas Budavari, Andrew J. Connolly, Joshua A. Frieman, James E. Gunn, David Johnston, Stephen M. Kent, Robert H. Lupton, Avery Meiksin, Robert C. Nichol, Donald P. Schneider, Ryan Scranton, Michael A. Strauss, Istvan Szapudi, Max Tegmark, Michael S. Vogeley, David H. Weinberg, & Idit Zehavi.* 607, 655 (2004)
- Type Ia Supernova Discoveries at $z > 1$ from the Hubble Space Telescope: Evidence for Past Deceleration and Constraints on Dark Energy Evolution. *Adam G. Riess, Louis-Gregory Strolger, John Tonry, Stefano Casertano, Henry C. Ferguson, Bahram Mobasher, Peter Challis, Alexei V. Filippenko, Saurabh Jha, Weidong Li, Ryan Chornock, Robert P. Kirshner, Bruno Leibundgut, Mark Dickinson, Mario Livio, Mauro Giavalisco, Charles C. Steidel, Txitxo Benitez, & Zlatan Tsvetanov.* 607, 665 (2004)
- Voids in the Two-Degree Field Galaxy Redshift Survey. *Fiona Hoyle & Michael S. Vogeley.* 607, 751 (2004)
- The Impact of Distance Uncertainties on Local Luminosity and Mass Functions. *Karen L. Masters, Martha P. Haynes, & Riccardo Giovanelli.* 607, L115 (2004)
- On Departures from a Power Law in the Galaxy Correlation Function. *Idit Zehavi, David H. Weinberg, Zheng Zheng, Andreas A. Berlind, Joshua A. Frieman, Román Scoccimarro, Ravi K. Sheth, Michael R. Blanton, Max Tegmark, Houjun J. Mo, Neta A. Bahcall, Jon Brinkmann, Scott Burles, István Csabai, Masataka Fukugita, James E. Gunn, Don Q. Lamb, Jon Loveday, Robert H. Lupton, Avery Meiksin, Jeffrey A. Munn, Robert C. Nichol, David Schlegel, Donald P. Schneider, Mark SubbaRao, Alexander S. Szalay, Alan Uomoto, & Donald G. York.* 608, 16 (2004)
- The Effect of Metallicity on Cepheid-based Distances. *Shoko Sakai, Laura Ferrarese, Robert C. Kennicutt, Jr., & Abhijit Saha.* 608, 42 (2004)
- GALAXIES: DWARF**
- The Absorption Signatures of Dwarf Galaxies: The $z = 1.04$ Multicloud Weak Mg II Absorber toward PG 1634+706. *Stephanie G. Zonak, Jane C. Charlton, Jie Ding, & Christopher W. Churchill.* 606, 196 (2004)
- The Radio Continuum of the Metal-deficient Blue Compact Dwarf Galaxy SBS 0335–052. *Leslie K. Hunt, Kristy K. Dyer, Trinh X. Thuan, & James S. Ulvestad.* 606, 853 (2004)
- Variations in Star Formation History and the Red Giant Branch Tip. *Michael K. Barker, Ata Sarajedini, & Jason Harris.* 606, 869 (2004)
- POX 52: A Dwarf Seyfert I Galaxy with an Intermediate-Mass Black Hole. *Aaron J. Barth, Luis C. Ho, Robert E. Rutledge, & Wallace L. W. Sargent.* 607, 90 (2004)
- The Complex Neutral Gas Dynamics of the Dwarf Starburst Galaxy NGC 625. *John M. Cannon, N. M. McClure-Griffiths, Evan D. Skillman, & Stéphanie Côté.* 607, 274 (2004)
- GALAXIES: ELLIPTICAL AND LENTICULAR, CD**
- A Self-Consistent Study of Triaxial Black Hole Nuclei. *M. Y. Poon & David Merritt.* 606, 774 (2004)
- Chaotic Loss Cones and Black Hole Fueling. *David Merritt & M. Y. Poon.* 606, 788 (2004)
- Companions to Isolated Elliptical Galaxies: Revisiting the Bothun-Sullivan Sample. *Barry F. Madore, Wendy L. Freedman, & Gregory D. Bothun.* 607, 810 (2004)
- The Diffuse Light in Simulations of Galaxy Clusters. *G. Murante, M. Arnaboldi, O. Gerhard, S. Borgani, L. M. Cheng, A. Diaferio, K. Dolag, L. Moscardini, G. Tormen, L. Tornatore, & P. Tozzi.* 607, L83 (2004)
- Nearly 5000 Distant Early-Type Galaxies in COMBO-17: A Red Sequence and Its Evolution since $z \sim 1$. *Eric F. Bell, Christian Wolf, Klaus Meisenheimer, Hans-Walter Rix, Andrea Borch, Simon Dye, Martina Kleinheinrich, Lutz Wisotzki, & Daniel H. McIntosh.* 608, 752 (2004)

GALAXIES: EVOLUTION

- Disk Galaxy Formation in a Λ Cold Dark Matter Universe. *Brant Robertson, Naoki Yoshida, Volker Springel, & Lars Hernquist.* 606, 32 (2004)
- Beyond the Damping Tail: Cross-Correlating the Kinetic Sunyaev-Zel'dovich Effect with Cosmic Shear. *Olivier Doré, Joseph F. Hennawi, & David N. Spergel.* 606, 46 (2004)
- X-Ray Evolution of Active Galactic Nuclei and Hierarchical Galaxy Formation. *N. Menci, F. Fiore, G. C. Perola, & A. Cavaliere.* 606, 58 (2004)
- Further Multiwavelength Observations of the SSA 22 Ly α -emitting "Blob." *S. C. Chapman, D. Scott, R. A. Windhorst, D. T. Frayer, C. Borys, G. F. Lewis, & R. J. Ivison.* 606, 85 (2004)
- Constraints on Early Nucleosynthesis from the Abundance Pattern of a Damped Ly α System at $z = 2.626$. *Yeshe Fenner, Jason X. Prochaska, & Brad K. Gibson.* 606, 116 (2004)
- The Absorption Signatures of Dwarf Galaxies: The $z = 1.04$ Multicloud Weak Mg II Absorber toward PG 1634+706. *Stephanie G. Zonak, Jane C. Charlton, Jie Ding, & Christopher W. Churchill.* 606, 196 (2004)
- Star Formation at $z \sim 6$: The Hubble Ultra Deep Parallel Fields. *R. J. Bouwens, G. D. Illingworth, R. I. Thompson, J. P. Blakeslee, M. E. Dickinson, T. J. Broadhurst, D. J. Eisenstein, X. Fan, M. Franx, G. Meurer, & P. van Dokkum.* 606, L25 (2004)
- $M_{\text{BH}}-\sigma$ Relation for a Complete Sample of Soft X-Ray-selected Active Galactic Nuclei. *Dirk Grupe & Smita Mathur.* 606, L41 (2004)
- The Abundance of Low-Luminosity Ly α Emitters at High Redshift. *Michael R. Santos, Richard S. Ellis, Jean-Paul Kneib, Johan Richard, & Konrad Kuijken.* 606, 683 (2004)
- On Constraining the Smoothed Particle Hydrodynamics Kernel Radius in Galaxy Simulations. *Peter R. Williams, David K. Churches, & Alistair H. Nelson.* 607, 1 (2004)
- Cosmic Star Formation History and the Future Observation of Supernova Relic Neutrinos. *Shin'ichiro Ando.* 607, 20 (2004)
- Comparison of Bar Strengths and Fractions of Bars in Active and Nonactive Galaxies. *Eija Laurikainen, Heikki Salo, & Ronald Buta.* 607, 103 (2004)
- Optical Selection of Star-Forming Galaxies at Redshifts $1 < z < 3$. *Kurt L. Adelberger, Charles C. Steidel, Alice E. Shapley, Matthew P. Hunt, Dawn K. Erb, Naveen A. Reddy, & Max Pettini.* 607, 226 (2004)
- E+A Galaxies and the Formation of Early Type Galaxies at $z \sim 0$. *Yujin Yang, Ann I. Zabludoff, Dennis Zaritsky, Tod R. Lauer, & J. Christopher Mihos.* 607, 258 (2004)
- The Complex Neutral Gas Dynamics of the Dwarf Starburst Galaxy NGC 625. *John M. Cannon, N. M. McClure-Griffiths, Evan D. Skillman, & Stéphanie Côté.* 607, 274 (2004)
- The First Measured Electron Temperatures for Metal-rich H II Regions in M51. *Donald R. Garnett, Robert C. Kennicutt, Jr., & Fabio Bresolin.* 607, L21 (2004)
- A Probable $z \sim 7$ Galaxy Strongly Lensed by the Rich Cluster A2218: Exploring the Dark Ages. *Jean-Paul Kneib, Richard S. Ellis, Michael R. Santos, & Johan Richard.* 607, 697 (2004)
- Hubble Space Telescope Imaging and Keck Spectroscopy of $z \approx 6$ i-Band Dropout Galaxies in the Advanced Camera for Surveys GOODS Fields. *Elizabeth R. Stanway, Andrew J. Bunker, Richard G. McMahon, Richard S. Ellis, Tommaso Treu, & Patrick J. McCarthy.* 607, 704 (2004)
- The Role of Gas in the Merging of Massive Black Holes in Galactic Nuclei. I. Black Hole Merging in a Spherical Gas Cloud. *Andrés Escala, Richard B. Larson, Paolo S. Coppi, & Diego Mardones.* 607, 765 (2004)
- The Diffuse Light in Simulations of Galaxy Clusters. *G. Murante, M. Arnaboldi, O. Gerhard, S. Borgani, L. M. Cheng, A. Diaferio, K. Dolag, L. Moscardini, G. Tormen, L. Tornatore, & P. Tozzi.* 607, L83 (2004)
- Generating Hot Gas in Simulations of Disk-Galaxy Major Mergers. *T. J. Cox, Joel Primack, Patrik Jonsson, & Rachel S. Somerville.* 607, L87 (2004)
- The Counterarc to MS 1512-cB58 and a Companion Galaxy. *Harry I. Teplitz, Matthew A. Malkan, & Ian S. McLean.* 608, 36 (2004)
- Quasar Feedback: The Missing Link in Structure Formation. *Evan Scannapieco & S. Peng.* 608, 62 (2004)
- Metal Enrichment in Near-Infrared Luminous Galaxies at $z \sim 2$: Signatures of Proto-Elliptical Galaxies? *D. F. de Mello, E. Daddi, A. Renzini, A. Cimatti, S. di Serego Alighieri, L. Pozzetti, & G. Zamorani.* 608, L29 (2004)
- The Identification of Blue Horizontal-Branch Stars in the Integrated Spectra of Globular Clusters. *Ricardo P. Schiavon, James A. Rose, Stéphane Courteau, & Lauren A. MacArthur.* 608, L33 (2004)

- The Munich Near-Infrared Cluster Survey (MUNICS). VI. The Stellar Masses of K-Band-Selected Field Galaxies to $z \sim 1.2$. *N. Drory, R. Bender, G. Feulner, U. Hopp, C. Maraston, J. Snigula, & G. J. Hill.* 608, 742 (2004)
- Nearly 5000 Distant Early-Type Galaxies in COMBO-17: A Red Sequence and Its Evolution since $z \sim 1$. *Eric F. Bell, Christian Wolf, Klaus Meisenheimer, Hans-Walter Rix, Andrea Borch, Simon Dye, Martina Kleinheinrich, Lutz Wisotzki, & Daniel H. McIntosh.* 608, 752 (2004)
- GALAXIES: FORMATION**
- Disk Galaxy Formation in a Λ Cold Dark Matter Universe. *Brant Robertson, Naoki Yoshida, Volker Springel, & Lars Hernquist.* 606, 32 (2004)
- Beyond the Damping Tail: Cross-Correlating the Kinetic Sunyaev-Zel'dovich Effect with Cosmic Shear. *Olivier Doré, Joseph F. Hennawi, & David N. Spergel.* 606, 46 (2004)
- X-Ray Evolution of Active Galactic Nuclei and Hierarchical Galaxy Formation. *N. Menci, F. Fiore, G. C. Perola, & A. Cavaliere.* 606, 58 (2004)
- Further Multiwavelength Observations of the SSA 22 Ly α -emitting "Blob." *S. C. Chapman, D. Scott, R. A. Windhorst, D. T. Frayer, C. Borys, G. F. Lewis, & R. J. Ivison.* 606, 85 (2004)
- The Distribution of Metallicity in the Intergalactic Medium at $z \sim 2.5$: O VI and C IV Absorption in the Spectra of Seven QSOs. *Robert A. Simcoe, Wallace L. W. Sargent, & Michael Rauch.* 606, 92 (2004)
- Ultraviolet Line Emission from Metals in the Low-Redshift Intergalactic Medium. *Steven R. Furlanetto, Joop Schaye, Volker Springel, & Lars Hernquist.* 606, 221 (2004)
- $M_{\text{BH}}-\sigma$ Relation for a Complete Sample of Soft X-Ray-selected Active Galactic Nuclei. *Dirk Grupe & Smita Mathur.* 606, L41 (2004)
- First Star Signature in Infrared Background Anisotropies. *Asantha Cooray, James J. Bock, Brian Keating, Andrew E. Lange, & T. Matsumoto.* 606, 611 (2004)
- The Faint Counterparts of Max-Planck-Millimeter-Bolometer (MAMBO) Millimeter Sources near the New Technology Telescope Deep Field. *H. Dannerbauer, M. D. Lehnert, D. Lutz, L. Tacconi, F. Bertoldi, C. Carilli, R. Genzel, & K. M. Menten.* 606, 664 (2004)
- The Abundance of Low-Luminosity Ly α Emitters at High Redshift. *Michael R. Santos, Richard S. Ellis, Jean-Paul Kneib, Johan Richard, & Konrad Kuijken.* 606, 683 (2004)
- Direct Constraints on the Dark Matter Self-Interaction Cross Section from the Merging Galaxy Cluster 1E 0657–56. *M. Markevitch, A. H. Gonzalez, D. Clowe, A. Vikhlinin, W. Forman, C. Jones, S. Murray, & W. Tucker.* 606, 819 (2004)
- Rate Coefficient for $\text{H}^+ + \text{H}_2(X^1\Sigma_g^+, \nu = 0, J = 0) \rightarrow \text{H}(1s) + \text{H}_2^+$ Charge Transfer and Some Cosmological Implications. *Daniel Wolf Savin, Predrag S. Krstić, Zoltán Haiman, & Phillip C. Stancil.* 606, L167 (2004)
- On Constraining the Smoothed Particle Hydrodynamics Kernel Radius in Galaxy Simulations. *Peter R. Williams, David K. Churches, & Alistair H. Nelson.* 607, 1 (2004)
- Optical Selection of Star-Forming Galaxies at Redshifts $1 < z < 3$. *Kurt L. Adelberger, Charles C. Steidel, Alice E. Shapley, Matthew P. Hunt, Dawn K. Erb, Naveen A. Reddy, & Max Pettini.* 607, 226 (2004)
- The Formation of a Realistic Disk Galaxy in Λ -dominated Cosmologies. *F. Governato, L. Mayer, J. Wadsley, J. P. Gardner, Beth Willman, E. Hayashi, T. Quinn, J. Stadel, & G. Lake.* 607, 688 (2004)
- A Probable $z \sim 7$ Galaxy Strongly Lensed by the Rich Cluster A2218: Exploring the Dark Ages. *Jean-Paul Kneib, Richard S. Ellis, Michael R. Santos, & Johan Richard.* 607, 697 (2004)
- Hubble Space Telescope Imaging and Keck Spectroscopy of $z \approx 6$ i-Band Dropout Galaxies in the Advanced Camera for Surveys GOODS Fields. *Elizabeth R. Stanway, Andrew J. Bunker, Richard G. McMahon, Richard S. Ellis, Tommaso Treu, & Patrick J. McCarthy.* 607, 704 (2004)
- Flat-cored Dark Matter in Cuspy Clusters of Galaxies. *Amr A. El-Zant, Yehuda Hoffman, Joel Primack, Francoise Combes, & Isaac Shlosman.* 607, L75 (2004)
- Ultralow Iron Abundances in the Distant Hot Gas in Galaxy Groups. *David A. Buote, Fabrizio Brighenti, & William G. Mathews.* 607, L91 (2004)
- Active Galactic Nuclei Emission-Line Properties versus the Eddington Ratio. *Craig Warner, Fred Hamann, & Matthias Dietrich.* 608, 136 (2004)
- The Formation of Dust Lanes: Implications for Galaxy Evolution. *Julianne J. Dalcanton, Peter Yochim, & Rebecca A. Bernstein.* 608, 189 (2004)
- Metal Enrichment in Near-Infrared Luminous Galaxies at $z \sim 2$: Signatures of Proto-Elliptical Galaxies? *D. F. de Mello, E. Daddi, A. Renzini, A. Cimatti, S. di Serego Alighieri, L. Pozzetti, & G. Zamorani.* 608, L29 (2004)

- Redshifted 21 Centimeter Emission from the Pre-reionization Era. I. Mean Signal and Linear Fluctuations. *Nikolay Y. Gnedin & Peter A. Shaver*. 608, 611 (2004)
- The Damping Wing of the Gunn-Peterson Absorption and Ly α Emitters in the Pre-Reionization Era. *Nikolay Y. Gnedin & Francisco Prada*. 608, L77 (2004)

GALAXIES: FUNDAMENTAL PARAMETERS

- Morphological Type Dependence in the Tully-Fisher Relationship. *David G. Russell*. 607, 241 (2004)
- On Departures from a Power Law in the Galaxy Correlation Function. *Idit Zehavi, David H. Weinberg, Zheng Zheng, Andreas A. Berlind, Joshua A. Frieman, Román Scoccimarro, Ravi K. Sheth, Michael R. Blanton, Max Tegmark, Houjun J. Mo, Neta A. Bahcall, Jon Brinkmann, Scott Burles, István Csabai, Masataka Fukugita, James E. Gunn, Don Q. Lamb, Jon Loveday, Robert H. Lupton, Avery Meiksin, Jeffrey A. Munn, Robert C. Nichol, David Schlegel, Donald P. Schneider, Mark SubbaRao, Alexander S. Szalay, Alan Uomoto, & Donald G. York*. 608, 16 (2004)
- The Munich Near-Infrared Cluster Survey (MUNICS). VI. The Stellar Masses of K-Band-Selected Field Galaxies to $z \sim 1.2$. *N. Drory, R. Bender, G. Feulner, U. Hopp, C. Maraston, J. Snigula, & G. J. Hill*. 608, 742 (2004)

GALAXIES: GENERAL

- Nearly 5000 Distant Early-Type Galaxies in COMBO-17: A Red Sequence and Its Evolution since $z \sim 1$. *Eric F. Bell, Christian Wolf, Klaus Meisenheimer, Hans-Walter Rix, Andrea Borch, Simon Dye, Martina Kleinheinrich, Lutz Wisotzki, & Daniel H. McIntosh*. 608, 752 (2004)

GALAXIES: HALOS

- Properties of Galaxy Dark Matter Halos from Weak Lensing. *Henk Hoekstra, H. K. C. Yee, & Michael D. Gladders*. 606, 67 (2004)
- The Absorption Signatures of Dwarf Galaxies: The $z = 1.04$ Multicloud Weak Mg II Absorber toward PG 1634+706. *Stephanie G. Zonak, Jane C. Charlton, Jie Ding, & Christopher W. Churchill*. 606, 196 (2004)
- The Supergalaxy NGC 4666: Gravitational Interactions and the Influence of the Resulting Starburst on the Interstellar Medium. *Fabian Walter, Michael Dahlem, & Ute Lisenfeld*. 606, 258 (2004)
- Structure of Dark Matter Halos from Hierarchical Clustering. III. Shallowing of the Inner Cusp. *Toshiyuki Fukushige, Atsushi Kawai, & Junichiro Makino*. 606, 625 (2004)
- A High Spatial Resolution X-Ray and H α Study of Hot Gas in the Halos of Star-Forming Disk Galaxies. II. Quantifying Supernova Feedback. *David K. Strickland, Timothy M. Heckman, Edward J. M. Colbert, Charles G. Hoopes, & Kimberly A. Weaver*. 606, 829 (2004)
- Halo Asphericity and the Shear Three-Point Function. *Shirley Ho & Martin White*. 607, 40 (2004)
- Constraining the Magnetic Effects on H I Rotation Curves and the Need for Dark Halos. *F. J. Sánchez-Salcedo & M. Reyes-Ruiz*. 607, 247 (2004)
- Flat-cored Dark Matter in Cuspy Clusters of Galaxies. *Amr A. El-Zant, Yehuda Hoffman, Joel Primack, Françoise Combes, & Isaac Shlosman*. 607, L75 (2004)
- Ultralow Iron Abundances in the Distant Hot Gas in Galaxy Groups. *David A. Buote, Fabrizio Brighenti, & William G. Mathews*. 607, L91 (2004)
- Density Profiles of Cold Dark Matter Substructure: Implications for the Missing-Satellites Problem. *Stelios Kazantzidis, Lucio Mayer, Chiara Mastroiuto, Jürg Diemand, Joachim Stadel, & Ben Moore*. 608, 663 (2004)

GALAXIES: HIGH-REDSHIFT

- Further Multiwavelength Observations of the SSA 22 Ly α -emitting "Blob." *S. C. Chapman, D. Scott, R. A. Windhorst, D. T. Frayer, C. Borys, G. F. Lewis, & R. J. Ivison*. 606, 85 (2004)
- Gemini Imaging of QSO Host Galaxies at $z \sim 2$. *Scott M. Croom, David Schade, Brian J. Boyle, Tom Shanks, Lance Miller, & Robert J. Smith*. 606, 126 (2004)
- Star Formation at $z \sim 6$: The Hubble Ultra Deep Parallel Fields. *R. J. Bouwens, G. D. Illingworth, R. I. Thompson, J. P. Blakeslee, M. E. Dickinson, T. J. Broadhurst, D. J. Eisenstein, X. Fan, M. Franx, G. Meurer, & P. van Dokkum*. 606, L25 (2004)
- The Faint Counterparts of Max-Planck-Millimeter-Bolometer (MAMBO) Millimeter Sources near the New Technology Telescope Deep Field. *H. Dannerbauer, M. D. Lehnert, D. Lutz, L. Tacconi, F. Bertoldi, C. Carilli, R. Genzel, & K. M. Menten*. 606, 664 (2004)

- The Abundance of Low-Luminosity Ly α Emitters at High Redshift. *Michael R. Santos, Richard S. Ellis, Jean-Paul Kneib, Johan Richard, & Konrad Kuijken*. 606, 683 (2004)

- Optical Selection of Star-Forming Galaxies at Redshifts $1 < z < 3$. *Kurt L. Adelberger, Charles C. Steidel, Alice E. Shapley, Matthew P. Hunt, Dawn K. Erb, Naveen A. Reddy, & Max Pettini*. 607, 226 (2004)

- A Probable $z \sim 7$ Galaxy Strongly Lensed by the Rich Cluster A2218: Exploring the Dark Ages. *Jean-Paul Kneib, Richard S. Ellis, Michael R. Santos, & Johan Richard*. 607, 697 (2004)

- Hubble Space Telescope Imaging and Keck Spectroscopy of $z \approx 6$ i-Band Dropout Galaxies in the Advanced Camera for Surveys GOODS Fields. *Elizabeth R. Stanway, Andrew J. Bunker, Richard G. McMahon, Richard S. Ellis, Tommaso Treu, & Patrick J. McCarthy*. 607, 704 (2004)

- Mock Catalogs for the DEEP2 Redshift Survey. *Renbin Yan, Martin White, & Alison L. Coil*. 607, 739 (2004)

- The Counterarc to MS 1512-cB58 and a Companion Galaxy. *Harry I. Teplitz, Matthew A. Malkan, & Ian S. McLean*. 608, 36 (2004)

- High-Redshift Radio-quiet Quasars: Exploring the Parameter Space of Accretion Models. I. Hot, Spheroidal Flow. *Małgorzata A. Sobolewska, Aneta Siemiginowska, & Piotr T. Zycki*. 608, 80 (2004)

- X-Ray Nondetection of the Ly α Emitters at $z \sim 4.5$. *J. X. Wang, J. E. Rhoads, S. Malhotra, S. Dawson, D. Stern, A. Dey, T. M. Heckman, C. A. Norman, & H. Spinrad*. 608, L21 (2004)

- Metal Enrichment in Near-Infrared Luminous Galaxies at $z \sim 2$: Signatures of Proto-Elliptical Galaxies? *D. F. de Mello, E. Daddi, A. Renzini, A. Cimatti, S. di Serego Alighieri, L. Pozzetti, & G. Zamorani*. 608, L29 (2004)

GALAXIES: INDIVIDUAL

Messier Number: M32

- Photometric Variability among the Brightest Asymptotic Giant Branch Stars near the Center of M32. *T. J. Davidge & F. Rigaut*. 607, L25 (2004)

Messier Number: M51

- The Pattern Speeds of M51, M83, and NGC 6946 Using CO and the Tremaine-Weinberg Method. *P. Zimmer, R. J. Rand, & J. T. McGraw*. 607, 285 (2004)

Messier Number: M81

- Iron K α Emission from the Low-Luminosity Active Galaxies M81 and NGC 4579. *G. C. Dewangan, R. E. Griffiths, T. Di Matteo, & N. J. Church*. 607, 788 (2004)

Messier Number: M82

- A High Spatial Resolution X-Ray and H α Study of Hot Gas in the Halos of Star-Forming Disk Galaxies. II. Quantifying Supernova Feedback. *David K. Strickland, Timothy M. Heckman, Edward J. M. Colbert, Charles G. Hoopes, & Kimberly A. Weaver*. 606, 829 (2004)

- Stellar and Gaseous Abundances in M82. *L. Origlia, P. Ranalli, A. Comastri, & R. Maiolino*. 606, 862 (2004)

Messier Number: M83

- The Pattern Speeds of M51, M83, and NGC 6946 Using CO and the Tremaine-Weinberg Method. *P. Zimmer, R. J. Rand, & J. T. McGraw*. 607, 285 (2004)

Messier Number: M87

- X-Ray and Optical Filaments in M87. *William B. Sparks, Megan Donahue, Andrés Jordán, Laura Ferrarese, & Patrick Côté*. 607, 294 (2004)

- X-Ray Triple Rings around the M87 Jets in the Central Virgo Cluster. *Hua Feng, Shuang-Nan Zhang, Yu-Qing Lou, & Ti-Pei Li*. 607, L95 (2004)

NGC Number: NGC 253

- A High Spatial Resolution X-Ray and H α Study of Hot Gas in the Halos of Star-Forming Disk Galaxies. II. Quantifying Supernova Feedback. *David K. Strickland, Timothy M. Heckman, Edward J. M. Colbert, Charles G. Hoopes, & Kimberly A. Weaver*. 606, 829 (2004)

NGC Number: NGC 346

- An X-Ray Investigation of the NGC 346 Field in the Small Magellanic Cloud. III. XMM-Newton Data. *Yaël Nazé, Jean Manfroid, Ian R. Stevens, Michael F. Corcoran, & Aaron Flores*. 608, 208 (2004)

NGC Number: NGC 625

- The Complex Neutral Gas Dynamics of the Dwarf Starburst Galaxy NGC 625. *John M. Cannon, N. M. McClure-Griffiths, Evan D. Skillman, & Stéphanie Côté*. 607, 274 (2004)

NGC Number: NGC 891

A High Spatial Resolution X-Ray and $H\alpha$ Study of Hot Gas in the Halos of Star-Forming Disk Galaxies. II. Quantifying Supernova Feedback. *David K. Strickland, Timothy M. Heckman, Edward J. M. Colbert, Charles G. Hoopes, & Kimberly A. Weaver.* 606, 829 (2004)

NGC Number: NGC 1482

A High Spatial Resolution X-Ray and $H\alpha$ Study of Hot Gas in the Halos of Star-Forming Disk Galaxies. II. Quantifying Supernova Feedback. *David K. Strickland, Timothy M. Heckman, Edward J. M. Colbert, Charles G. Hoopes, & Kimberly A. Weaver.* 606, 829 (2004)

NGC Number: NGC 3034

A High Spatial Resolution X-Ray and $H\alpha$ Study of Hot Gas in the Halos of Star-Forming Disk Galaxies. II. Quantifying Supernova Feedback. *David K. Strickland, Timothy M. Heckman, Edward J. M. Colbert, Charles G. Hoopes, & Kimberly A. Weaver.* 606, 829 (2004)

NGC Number: NGC 3073

A High Spatial Resolution X-Ray and $H\alpha$ Study of Hot Gas in the Halos of Star-Forming Disk Galaxies. II. Quantifying Supernova Feedback. *David K. Strickland, Timothy M. Heckman, Edward J. M. Colbert, Charles G. Hoopes, & Kimberly A. Weaver.* 606, 829 (2004)

NGC Number: NGC 3079

A High Spatial Resolution X-Ray and $H\alpha$ Study of Hot Gas in the Halos of Star-Forming Disk Galaxies. II. Quantifying Supernova Feedback. *David K. Strickland, Timothy M. Heckman, Edward J. M. Colbert, Charles G. Hoopes, & Kimberly A. Weaver.* 606, 829 (2004)

NGC Number: NGC 3628

A High Spatial Resolution X-Ray and $H\alpha$ Study of Hot Gas in the Halos of Star-Forming Disk Galaxies. II. Quantifying Supernova Feedback. *David K. Strickland, Timothy M. Heckman, Edward J. M. Colbert, Charles G. Hoopes, & Kimberly A. Weaver.* 606, 829 (2004)

NGC Number: NGC 3998

Testing Radiatively Inefficient Accretion Flow Theory: An XMM-Newton Observation of NGC 3998. *A. Ptak, Y. Terashima, L. C. Ho, & E. Quataert.* 606, 173 (2004)

NGC Number: NGC 4051

Relativistic O VIII Emission and Ionized Outflow in NGC 4051 Measured with XMM-Newton. *P. M. Ogle, K. O. Mason, M. J. Page, N. J. Salvi, F. A. Cordova, I. M. McHardy, & W. C. Priedhorsky.* 606, 151 (2004)

NGC Number: NGC 4244

A High Spatial Resolution X-Ray and $H\alpha$ Study of Hot Gas in the Halos of Star-Forming Disk Galaxies. II. Quantifying Supernova Feedback. *David K. Strickland, Timothy M. Heckman, Edward J. M. Colbert, Charles G. Hoopes, & Kimberly A. Weaver.* 606, 829 (2004)

NGC Number: NGC 4579

Iron K α Emission from the Low-Luminosity Active Galaxies M81 and NGC 4579. *G. C. Dewangan, R. E. Griffiths, T. Di Matteo, & N. J. Schurch.* 607, 788 (2004)

NGC Number: NGC 4631

A High Spatial Resolution X-Ray and $H\alpha$ Study of Hot Gas in the Halos of Star-Forming Disk Galaxies. II. Quantifying Supernova Feedback. *David K. Strickland, Timothy M. Heckman, Edward J. M. Colbert, Charles G. Hoopes, & Kimberly A. Weaver.* 606, 829 (2004)

NGC Number: NGC 4666

The Superwind Galaxy NGC 4666: Gravitational Interactions and the Influence of the Resulting Starburst on the Interstellar Medium. *Fabian Walter, Michael Dahlem, & Ute Lisenfeld.* 606, 258 (2004)

NGC Number: NGC 4668

The Superwind Galaxy NGC 4666: Gravitational Interactions and the Influence of the Resulting Starburst on the Interstellar Medium. *Fabian Walter, Michael Dahlem, & Ute Lisenfeld.* 606, 258 (2004)

NGC Number: NGC 4945

A High Spatial Resolution X-Ray and $H\alpha$ Study of Hot Gas in the Halos of Star-Forming Disk Galaxies. II. Quantifying Supernova Feedback. *David K. Strickland, Timothy M. Heckman, Edward J. M. Colbert, Charles G. Hoopes, & Kimberly A. Weaver.* 606, 829 (2004)

NGC Number: NGC 5044

Ultralow Iron Abundances in the Distant Hot Gas in Galaxy Groups. *David A. Buote, Fabrizio Brighenti, & William G. Mathews.* 607, L91 (2004)

NGC Number: NGC 5194

The First Measured Electron Temperatures for Metal-rich H II Regions in M51. *Donald R. Garnett, Robert C. Kennicutt, Jr., & Fabio Bresolin.* 607, L21 (2004)

NGC Number: NGC 6503

A High Spatial Resolution X-Ray and $H\alpha$ Study of Hot Gas in the Halos of Star-Forming Disk Galaxies. II. Quantifying Supernova Feedback. *David K. Strickland, Timothy M. Heckman, Edward J. M. Colbert, Charles G. Hoopes, & Kimberly A. Weaver.* 606, 829 (2004)

NGC Number: NGC 6814

A Search for Short-Timescale Microvariability in Active Galactic Nuclei in the Ultraviolet. *Joseph F. Dolan & L. Lee Clark.* 607, 84 (2004)

NGC Number: NGC 6946

The Pattern Speeds of M51, M83, and NGC 6946 Using CO and the Tremaine-Weinberg Method. *P. Zimmer, R. J. Rand, & J. T. McGraw.* 607, 285 (2004)

Name: Markarian 205

A Search for Short-Timescale Microvariability in Active Galactic Nuclei in the Ultraviolet. *Joseph F. Dolan & L. Lee Clark.* 607, 84 (2004)

Name: Tol 1924–416

Extended Tidal Structure in Two Ly α -Emitting Starburst Galaxies. *John M. Cannon, Evan D. Skillman, Daniel Kunth, Claus Leitherer, Miguel Mas-Hesse, Göran Östlin, & Artashes Petrosian.* 608, 768 (2004)

Alphanumeric: 3C 249.1

A Search for Short-Timescale Microvariability in Active Galactic Nuclei in the Ultraviolet. *Joseph F. Dolan & L. Lee Clark.* 607, 84 (2004)

Alphanumeric: 3C 371

A Search for Short-Timescale Microvariability in Active Galactic Nuclei in the Ultraviolet. *Joseph F. Dolan & L. Lee Clark.* 607, 84 (2004)

Alphanumeric: IC 4329A

High-Resolution X-Ray Spectroscopy of the Fe K Complex in IC 4329A. *Barry McKernan & Tahir Yaqoob.* 608, 157 (2004)

Alphanumeric: IRAS 08339+6517

Extended Tidal Structure in Two Ly α -Emitting Starburst Galaxies. *John M. Cannon, Evan D. Skillman, Daniel Kunth, Claus Leitherer, Miguel Mas-Hesse, Göran Östlin, & Artashes Petrosian.* 608, 768 (2004)

Alphanumeric: MCG –6-30-15

Reprocessing of Soft X-Ray Emission Lines in Black Hole Accretion Disks. *Christopher W. Mauche, Duane A. Liedahl, Benjamin F. Mathiesen, Mario A. Jimenez-Garate, & John C. Raymond.* 606, 168 (2004)

Alphanumeric: MS 1512–cB58

The Counterarc to MS 1512–cB58 and a Companion Galaxy. *Harry I. Teplitz, Matthew A. Malkan, & Ian S. McLean.* 608, 36 (2004)

Alphanumeric: PKS 2354–350

Observations of A4059 with the Chandra, Hubble Space Telescope, and the Very Large Array: Unraveling a Complex Cluster/Radio Galaxy Interaction. *Yun-Young Choi, Christopher S. Reynolds, Sebastian Heinz, Jessica L. Rosenberg, Eric S. Perlman, & Jongmann Yang.* 606, 185 (2004)

Alphanumeric: POX 52

POX 52: A Dwarf Seyfert 1 Galaxy with an Intermediate-Mass Black Hole. *Aaron J. Barth, Luis C. Ho, Robert E. Rutledge, & Wallace L. W. Sargent.* 607, 90 (2004)

Alphanumeric: RX J0136.9–3510

ROSAT and ASCA Observations of the Narrow-Line Seyfert 1 Galaxy RX J0136.9–3510: Blueshifted Fe K α Line and Extended Soft X-Ray Emission. *Kajal K. Ghosh, Douglas A. Swartz, Allyn F. Tennant, Kinwah Wu, & Brian D. Ramsey.* 607, L111 (2004)

Alphanumeric: SBS 0335–052

Chandra Observations of the Three Most Metal Deficient Blue Compact Dwarf Galaxies Known in the Local Universe, SBS 0335–052, SBS 0335–052W, and I Zw 18. *Trinh X. Thuan, Franz E. Bauer, Polichronis Papademos, & Yuri I. Izotov.* 606, 213 (2004)

The Radio Continuum of the Metal-deficient Blue Compact Dwarf Galaxy SBS 0335–052. *Leslie K. Hunt, Kristy K. Dyer, Trinh X. Thuan, & James S. Ulvestad.* 606, 853 (2004)

Alphanumeric: SBS 0335–052W

Chandra Observations of the Three Most Metal Deficient Blue Compact Dwarf Galaxies Known in the Local Universe, SBS 0335–052, SBS 0335–052W, and I Zw 18. *Trinh X. Thuan, Franz E. Bauer, Polichronis Papaderos, & Yuri I. Izotov*. 606, 213 (2004)

Alphanumeric: I Zw 18

Chandra Observations of the Three Most Metal Deficient Blue Compact Dwarf Galaxies Known in the Local Universe, SBS 0335–052, SBS 0335–052W, and I Zw 18. *Trinh X. Thuan, Franz E. Bauer, Polichronis Papaderos, & Yuri I. Izotov*. 606, 213 (2004)

GALAXIES: INTERACTIONS

X-Ray Evolution of Active Galactic Nuclei and Hierarchical Galaxy Formation. *N. Menci, F. Fiore, G. C. Perola, & A. Cavaliere*. 606, 58 (2004)

The Superwind Galaxy NGC 4666: Gravitational Interactions and the Influence of the Resulting Starburst on the Interstellar Medium. *Fabian Walter, Michael Dahlem, & Ute Lisenfeld*. 606, 258 (2004)

E+A Galaxies and the Formation of Early Type Galaxies at $z \sim 0$. *Yujin Yang, Ann I. Zabludoff, Dennis Zaritsky, Tod R. Lauer, & J. Christopher Mihos*. 607, 258 (2004)

Generating Hot Gas in Simulations of Disk-Galaxy Major Mergers. *T. J. Cox, Joel Primack, Patrik Jonsson, & Rachel S. Somerville*. 607, L87 (2004)

Extended Tidal Structure in Two Ly α -Emitting Starburst Galaxies. *John M. Cannon, Evan D. Skillman, Daniel Kunth, Claus Leitherer, Miguel Mas-Hesse, Göran Östlin, & Artashes Petrosian*. 608, 768 (2004)

GALAXIES: INTERGALACTIC MEDIUM

The Distribution of Metallicity in the Intergalactic Medium at $z \sim 2.5$: O VI and C IV Absorption in the Spectra of Seven QSOs. *Robert A. Simcoe, Wallace L. W. Sargent, & Michael Rauch*. 606, 92 (2004)

Constraints on Early Nucleosynthesis from the Abundance Pattern of a Damped Ly α System at $z = 2.626$. *Yeshe Fenner, Jason X. Prochaska, & Brad K. Gibson*. 606, 116 (2004)

The Absorption Signatures of Dwarf Galaxies: The $z = 1.04$ Multicloud Weak Mg II Absorber toward PG 1634+706. *Stephanie G. Zonak, Jane C. Charlton, Jie Ding, & Christopher W. Churchill*. 606, 196 (2004)

Ultraviolet Line Emission from Metals in the Low-Redshift Intergalactic Medium. *Steven R. Furlanetto, Joop Schaye, Volker Springel, & Lars Hernquist*. 606, 221 (2004)

Probing the Statistics of the Temperature-Density Relation of the Intergalactic Medium. *Taotao Fang & Martin White*. 606, L9 (2004)

A *Chandra* Study of the Core of the Nearby Cluster A576. *Joshua C. Kempner & Laurence P. David*. 607, 220 (2004)

Quasar Feedback: The Missing Link in Structure Formation. *Evan Scannapieco & S. Peng Oh*. 608, 62 (2004)

XMM-Newton Observation of the Merging Galaxy Cluster A1644. *Thomas H. Reiprich, Craig L. Sarazin, Joshua C. Kempner, & Eric Tittle*. 608, 179 (2004)

Photoionized Gas in Dark-Matter Minihalos in the Galactic Halo and Local Group. *Orly Gnat & Amiel Sternberg*. 608, 229 (2004)

Effects of Preheated Clusters on the Cosmic Microwave Background Spectrum. *Kai-Yang Lin, Tak-Pong Woo, Yao-Huan Tseng, Lihwai Lin, & Tzihong Chiueh*. 608, L1 (2004)

Redshifted 21 Centimeter Emission from the Pre-reionization Era. I. Mean Signal and Linear Fluctuations. *Nikolay Y. Gnedin & Peter A. Shaver*. 608, 611 (2004)

21 Centimeter Fluctuations from Cosmic Gas at High Redshifts. *Matias Zaldarriaga, Steven R. Furlanetto, & Lars Hernquist*. 608, 622 (2004)

Detecting the Attenuation of Blazar Gamma-Ray Emission by Extragalactic Background Light with the Gamma-Ray Large Area Space Telescope. *Andrew Chen, Luis C. Reyes, & Steven Ritz*. 608, 686 (2004)

The Damping Wing of the Gunn-Peterson Absorption and Ly α Emitters in the Pre-Reionization Era. *Nikolay Y. Gnedin & Francisco Prada*. 608, L77 (2004)

GALAXIES: IRREGULAR

The Complex Neutral Gas Dynamics of the Dwarf Starburst Galaxy NGC 625. *John M. Cannon, N. M. McClure-Griffiths, Evan D. Skillman, & Stéphanie Côté*. 607, 274 (2004)

GALAXIES: ISM

The Superwind Galaxy NGC 4666: Gravitational Interactions and the Influence of the Resulting Starburst on the Interstellar Medium. *Fabian Walter, Michael Dahlem, & Ute Lisenfeld*. 606, 258 (2004)

The Star Formation Rate and Dense Molecular Gas in Galaxies. *Yu Gao & Philip M. Solomon*. 606, 271 (2004)

On Constraining the Smoothed Particle Hydrodynamics Kernel Radius in Galaxy Simulations. *Peter R. Williams, David K. Churches, & Alistair H. Nelson*. 607, 1 (2004)

The Pattern Speeds of M51, M83, and NGC 6946 Using CO and the Tremaine-Weinberg Method. *P. Zimmer, R. J. Rand, & J. T. McGraw*. 607, 285 (2004)

X-Ray and Optical Filaments in M87. *William B. Sparks, Megan Donahue, Andrés Jordán, Laura Ferrarese, & Patrick Côté*. 607, 294 (2004)

Generating Hot Gas in Simulations of Disk-Galaxy Major Mergers. *T. J. Cox, Joel Primack, Patrik Jonsson, & Rachel S. Somerville*. 607, L87 (2004)

The Formation of Dust Lanes: Implications for Galaxy Evolution. *Julianne J. Dalcanton, Peter Yoachim, & Rebecca A. Bernstein*. 608, 189 (2004)

The Production of H I in Photodissociation Regions and a Comparison with CO (1–0) Emission. *Ronald J. Allen, Harold I. Heaton, & Michael J. Kaufman*. 608, 314 (2004)

GALAXIES: JETS

Observations of A4059 with the *Chandra*, *Hubble Space Telescope*, and the Very Large Array: Unraveling a Complex Cluster/Radio Galaxy Interaction. *Yun-Young Choi, Christopher S. Reynolds, Sebastian Heinz, Jessica L. Rosenberg, Eric S. Perlman, & Jongmann Yang*. 606, 185 (2004)

Propagation and Dynamics of Relativistic Jets. *Akira Mizuta, Shoichi Yamada, & Hideaki Takabe*. 606, 804 (2004)

On Multiwavelength Emission of Large-Scale Quasar Jets. *Lukasz Stawarz, Marek Sikora, Michał Ostrowski, & Mitchell C. Begelman*. 608, 95 (2004)

Distribution of Faraday Rotation Measure in Jets from Active Galactic Nuclei. II. Prediction from our Sweeping Magnetic Twist Model for the Wiggled Parts of Active Galactic Nucleus Jets and Tails. *Hiromitsu Kigure, Yutaka Uchida, Masanori Nakamura, Shigenobu Hirose, & Robert Cameron*. 608, 119 (2004)

Structure of OJ 287 from Geodetic Very Long Baseline Array Data. *Claudio E. Tatemaya & Kerry A. Kingham*. 608, 149 (2004)

A Survey of Extended Radio Jets with *Chandra* and the *Hubble Space Telescope*. *Rita M. Sambruna, Jessica K. Gambill, L. Maraschi, F. Tavecchio, R. Cerutti, C. C. Cheung, C. Megan Urry, & G. Chartas*. 608, 698 (2004)

GALAXIES: KINEMATICS AND DYNAMICS

POX 52: A Dwarf Seyfert 1 Galaxy with an Intermediate-Mass Black Hole. *Aaron J. Barth, Luis C. Ho, Robert E. Rutledge, & Wallace L. W. Sargent*. 607, 90 (2004)

A Redshift Survey of Nearby Galaxy Groups: The Shape of the Mass Density Profile. *Andisheh Mahdavi & Margaret J. Geller*. 607, 202 (2004)

Morphological Type Dependence in the Tully-Fisher Relationship. *David G. Russell*. 607, 241 (2004)

Constraining the Magnetic Effects on H I Rotation Curves and the Need for Dark Halos. *F. J. Sánchez-Salcedo & M. Reyes-Ruiz*. 607, 247 (2004)

GALAXIES: LOCAL GROUP

Variations in Star Formation History and the Red Giant Branch Tip. *Michael K. Barker, Ata Sarajedini, & Jason Harris*. 606, 869 (2004)

GALAXIES: LUMINOSITY FUNCTION, MASS FUNCTION

Star Formation at $z \sim 6$: The *Hubble* Ultra Deep Parallel Fields. *R. J. Bouwens, G. D. Illingworth, R. I. Thompson, J. P. Blakeslee, M. E. Dickinson, T. J. Broadhurst, D. J. Eisenstein, X. Fan, M. Franx, G. Meurer, & P. van Dokkum*. 606, L25 (2004)

The Abundance of Low-Luminosity Ly α Emitters at High Redshift. *Michael R. Santos, Richard S. Ellis, Jean-Paul Kneib, Johan Richard, & Konrad Kuijken*. 606, 683 (2004)

The X-Ray-derived Cosmological Star Formation History and the Galaxy X-Ray Luminosity Functions in the *Chandra* Deep Fields North and South. *Colin Norman, Andrew Ptak, Ann Hornschemeier, Guenther Hasinger, Jacqueline Bergeron, Andrea Comastri, Riccardo Giacconi, Roberto Gilli, Karl Glazebrook, Tim Heckman, Lisa Kewley, Piero Ranalli, Piero Rosati, Gyula Szokoly, Paolo Tozzi, JunXian Wang, Wei Zheng, & Andrew Zirm*. 607, 721 (2004)

The Impact of Distance Uncertainties on Local Luminosity and Mass Functions. *Karen L. Masters, Martha P. Haynes, & Riccardo Giovanelli*. 607, L115 (2004)

The Munich Near-Infrared Cluster Survey (MUNICS). VI. The Stellar Masses of K-Band-Selected Field Galaxies to $z \sim 1.2$. *N. Drory, R. Bender, G. Feulner, U. Hopp, C. Maraston, J. Snigula, & G. J. Hill*. 608, 742 (2004)

Nearly 5000 Distant Early-Type Galaxies in COMBO-17: A Red Sequence and Its Evolution since $z \sim 1$. *Eric F. Bell, Christian Wolf, Klaus Meisenheimer, Hans-Walter Rix, Andrea Borch, Simon Dye, Martina Kleinheinrich, Lutz Wisotzki, & Daniel H. McIntosh*. 608, 752 (2004)

GALAXIES: MAGELLANIC CLOUDS

An X-Ray Investigation of the NGC 346 Field in the Small Magellanic Cloud. III. *XMM-Newton Data*. *Yael Nazé, Jean Manfroid, Ian R. Stevens, Michael F. Corcoran, & Aaron Flores*. 608, 208 (2004)

Low-Mass Pre-Main-Sequence Stars in the Large Magellanic Cloud. III. Accretion Rates from *Hubble Space Telescope* WFPC2 Observations. *M. Romaniello, M. Robberto, & N. Panagia*. 608, 220 (2004)

Probing the Red Giant Branch Phase Transition: Near-Infrared Photometry of Six Intermediate-Age Large Magellanic Cloud Clusters. *Francesco R. Ferraro, Livia Origlia, Vincenzo Testa, & Claudia Maraston*. 608, 772 (2004)

The Physical Properties and Effective Temperature Scale of O-Type Stars as a Function of Metallicity. I. A Sample of 20 Stars in the Magellanic Clouds. *Philip Massey, Fabio Bresolin, Rolf P. Kudritzki, Joachim Puls, & A. W. A. Pauldrach*. 608, 1001 (2004)

A CNO Dichotomy among O2 Giant Spectra in the Magellanic Clouds. *Nolan R. Walborn, Nidia I. Morrell, Ian D. Howarth, Paul A. Crowther, Daniel J. Lennon, Philip Massey, & Julia I. Arias*. 608, 1028 (2004)

GALAXIES: MAGNETIC FIELDS

Spectral Analysis of *Ross X-Ray Timing Explorer* Observations of A3667. *Yoel Rephaeli & Duane Gruber*. 606, 825 (2004)

Magnetohydrodynamic Simulations of the Formation of Cold Fronts in Clusters of Galaxies Including Heat Conduction. *N. Asai, N. Fukuda, & R. Matsumoto*. 606, L105 (2004)

Constraining the Magnetic Effects on H I Rotation Curves and the Need for Dark Halos. *F. J. Sánchez-Salcedo & M. Reyes-Ruiz*. 607, 247 (2004)

GALAXIES: NUCLEI

Cosmological Growth History of Supermassive Black Holes and Demographics in the High- z Universe: Do Lyman Break Galaxies Have Supermassive Black Holes? *Takushi Hosokawa*. 606, 139 (2004)

The Effect of Gravitational-Wave Recoil on the Demography of Massive Black Holes. *Piero Madau & Eliot Quataert*. 606, L17 (2004)

Orbital Capture of Stars by a Massive Black Hole via Exchanges with Compact Remnants. *Tal Alexander & Mario Livio*. 606, L21 (2004)

What the Optical Recombination Lines Can Tell Us about the Broad-Line Regions of Active Galactic Nuclei. *Kirk T. Korista & Michael R. Goad*. 606, 749 (2004)

Reasoning From Fossils: Learning From the Local Black Hole Population About the Evolution of Quasars. *Zoltan Haiman, Luca Ciotti, & Jeremiah P. Ostriker*. 606, 763 (2004)

A Self-Consistent Study of Triaxial Black Hole Nuclei. *M. Y. Poon & David Merritt*. 606, 774 (2004)

Chaotic Loss Cones and Black Hole Fueling. *David Merritt & M. Y. Poon*. 606, 788 (2004)

POX 52: A Dwarf Seyfert 1 Galaxy with an Intermediate-Mass Black Hole. *Aaron J. Barth, Luis C. Ho, Robert E. Rutledge, & Wallace L. W. Sargent*. 607, 90 (2004)

How Black Holes Get Their Kicks: Gravitational Radiation Recoil Revisited. *Marc Favata, Scott A. Hughes, & Daniel E. Holz*. 607, L5 (2004)

Consequences of Gravitational Radiation Recoil. *David Merritt, Miloš Milosavljević, Marc Favata, Scott A. Hughes, & Daniel E. Holz*. 607, L9 (2004)

The Role of Gas in the Merging of Massive Black Holes in Galactic Nuclei. I. Black Hole Merging in a Spherical Gas Cloud. *Andrés Escala, Richard B. Larson, Paolo S. Coppi, & Diego Mardones*. 607, 765 (2004)

ROSAT and ASCA Observations of the Narrow-Line Seyfert 1 Galaxy RX J0136.9–3510: Blueshifted Fe K α Line and Extended Soft X-Ray Emission. *Kajal K. Ghosh, Douglas A. Swartz, Allyn F. Tennant, Kinwah Wu, & Brian D. Ramsey*. 607, L111 (2004)

Core Formation by a Population of Massive Remnants. *David Merritt, Slawomir Piatek, Simon Portegies Zwart, & Marc Hemsendorf*. 608, L25 (2004)

GALAXIES: QUASARS: ABSORPTION LINES

The Distribution of Metallicity in the Intergalactic Medium at $z \sim 2.5$: O VI and C IV Absorption in the Spectra of Seven QSOs. *Robert A. Simcoe, Wallace L. W. Sargent, & Michael Rauch*. 606, 92 (2004)

Constraints on Early Nucleosynthesis from the Abundance Pattern of a Damped Ly α System at $z = 2.626$. *Yeshe Fenner, Jason X. Prochaska, & Brad K. Gibson*. 606, 116 (2004)

The Absorption Signatures of Dwarf Galaxies: The $z = 1.04$ Multicloud Weak Mg II Absorber toward PG 1634+706. *Stephanie G. Zonak, Jane C. Charlton, Jie Ding, & Christopher W. Churchill*. 606, 196 (2004)

Photoionized Gas in Dark-Matter Minihalos in the Galactic Halo and Local Group. *Orly Gnat & Amiel Sternberg*. 608, 229 (2004)

On the Steady Nature of Line-Driven Disk Winds. *Nicolas A. Pereyra, Stanley P. Owocki, D. John Hillier, & David A. Turnshek*. 608, 454 (2004)

GALAXIES: QUASARS: EMISSION LINES

What the Optical Recombination Lines Can Tell Us about the Broad-Line Regions of Active Galactic Nuclei. *Kirk T. Korista & Michael R. Goad*. 606, 749 (2004)

The Faintness of the 158 Micron [C II] Transition in the $z = 6.42$ Quasar SDSS J1148+5251. *Alberto D. Bolatto, James Di Francesco, & Chris J. Willott*. 606, L101 (2004)

Active Galactic Nuclei Emission-Line Properties versus the Eddington Ratio. *Craig Warner, Fred Hamann, & Matthias Dietrich*. 608, 136 (2004)

Elucidating the Correlation of the Quasar Fe II/Mg II Ratio with Redshift. *E. M. Vermer & B. A. Peterson*. 608, L85 (2004)

GALAXIES: QUASARS: GENERAL

Gemini Imaging of QSO Host Galaxies at $z \sim 2$. *Scott M. Croom, David Schade, Brian J. Boyle, Tom Shanks, Lance Miller, & Robert J. Smith*. 606, 126 (2004)

$M_{\text{BH}}-\sigma$ Relation for a Complete Sample of Soft X-Ray-selected Active Galactic Nuclei. *Dirk Grupe & Smita Mathur*. 606, L41 (2004)

New Quasars Detected via Variability in the QUEST1 Survey. *A. W. Rengstorff, S. L. Mufson, C. Abad, B. Adams, P. Andrews, C. Bailyn, C. Baltay, A. Bongiovanni, C. Briceño, G. Bruzual, P. Coppi, F. Della Prugna, W. Emmet, I. Ferrin, F. Fuenmayor, M. Gebhard, J. Hernández, R. K. Honeycutt, G. Magris, J. Musser, O. Naranjo, A. Oemler, P. Rosenzweig, C. N. Sabbey, Ge. Sánchez, Gu. Sánchez, B. Schaefer, H. Schenker, J. Sinnott, J. A. Snyder, S. Sofia, J. Stock, W. van Altena, & A. K. Vivas*. 606, 741 (2004)

Reasoning From Fossils: Learning From the Local Black Hole Population About the Evolution of Quasars. *Zoltan Haiman, Luca Ciotti, & Jeremiah P. Ostriker*. 606, 763 (2004)

FIRST-2MASS Sources below the APM Detection Threshold: A Population of Highly Reddened Quasars. *Eilat Glikman, Michael D. Gregg, Mark Lacy, David J. Helfand, Robert H. Becker, & Richard L. White*. 607, 60 (2004)

The Role of Gas in the Merging of Massive Black Holes in Galactic Nuclei. I. Black Hole Merging in a Spherical Gas Cloud. *Andrés Escala, Richard B. Larson, Paolo S. Coppi, & Diego Mardones*. 607, 765 (2004)

The Clustering of XMM-Newton Hard X-Ray Sources. *S. Basilakos, A. Georgakakis, M. Plionis, & I. Georgantopoulos*. 607, L79 (2004)

Quasar Feedback: The Missing Link in Structure Formation. *Evan Scannapieco & S. Peng Oh*. 608, 62 (2004)

High-Redshift Radio-quiet Quasars: Exploring the Parameter Space of Accretion Models. I. Hot, Spherically Flow. *Małgorzata A. Sobolewska, Aneta Siemiginowska, & Piotr T. Zycki*. 608, 80 (2004)

Supermassive Stars in Quasar Disks. *J. Goodman & Jonathan C. Tan*. 608, 108 (2004)

A Survey of Extended Radio Jets with *Chandra* and the *Hubble Space Telescope*. *Rita M. Sambruna, Jessica K. Gambill, L. Maraschi, F. Tavecchio, R. Cerruti, C. C. Cheung, C. Megan Urry, & G. Chartas*. 608, 698 (2004)

GALAXIES: QUASARS: INDIVIDUAL

Alphanumeric: H1413+117

Chandra Observations of the Cloverleaf Quasar H1413+117: A Unique Laboratory for Microlensing Studies of a LoBAL Quasar. *G. Chartas, M. Eracleous, E. Agol, & S. C. Gallagher*. 606, 78 (2004)

Alphanumeric: Q2237+0305

Spectroscopic Gravitational Lensing and Limits on the Dark Matter Substructure in Q2237+0305. *R. Benton Metcalf, Leonidas A. Moustakas, Andrew J. Bunker, & Ian R. Parry*. 607, 43 (2004)

Alphanumeric: SDSS J114816.64+525150.3

The Faintness of the 158 Micron [C II] Transition in the $z = 6.42$ Quasar SDSS J1148+5251. *Alberto D. Bolatto, James Di Francesco, & Chris J. Willott*. 606, L101 (2004)

GALAXIES: SEYFERT

- Reprocessing of Soft X-Ray Emission Lines in Black Hole Accretion Disks. *Christopher W. Mauche, Duane A. Liedahl, Benjamin F. Mathiesen, Mario A. Jimenez-Garate, & John C. Raymond.* 606, 168 (2004)
- What the Optical Recombination Lines Can Tell Us about the Broad-Line Regions of Active Galactic Nuclei. *Kirk T. Korista & Michael R. Goad.* 606, 749 (2004)
- A Search for Short-Timescale Microvariability in Active Galactic Nuclei In the Ultraviolet. *Joseph F. Dolan & L. Lee Clark.* 607, 84 (2004)
- POX 52: A Dwarf Seyfert I Galaxy with an Intermediate-Mass Black Hole. *Aaron J. Barth, Luis C. Ho, Robert E. Rutledge, & Wallace L. W. Sargent.* 607, 90 (2004)
- On the Relationship between the Optical Emission-Line and X-Ray Luminosities in Seyfert I Galaxies. *S. B. Kraemer, I. M. George, D. M. Crenshaw, & J. R. Gabel.* 607, 794 (2004)
- The Hot Disk Corona and Magnetic Turbulence in Radio-quiet Active Galactic Nuclei: Observational Constraints. *Jian-Min Wang, Ken-Ya Watarai, & Shin Mineshige.* 607, 1107 (2004)
- ROSAT and ASCA Observations of the Narrow-Line Seyfert I Galaxy RX J0136.9–3510: Blueshifted Fe K α Line and Extended Soft X-Ray Emission. *Kajal K. Ghosh, Douglas A. Swartz, Allyn F. Tennant, Kinwah Wu, & Brian D. Ramsey.* 607, 1111 (2004)
- High-Resolution X-Ray Spectroscopy of the Fe K Complex in IC 4329A. *Barry McKernan & Tahir Yaqoob.* 608, 157 (2004)

GALAXIES: SPIRAL

- Disk Galaxy Formation in a Cold Dark Matter Universe. *Brant Robertson, Naoki Yoshida, Volker Springel, & Lars Hernquist.* 606, 32 (2004)
- Comparison of Bar Strengths and Fractions of Bars in Active and Nonactive Galaxies. *Eija Laurikainen, Heikki Salo, & Ronald Buta.* 607, 103 (2004)
- Constraining the Magnetic Effects on H I Rotation Curves and the Need for Dark Halos. *F. J. Sánchez-Salcedo & M. Reyes-Ruiz.* 607, 247 (2004)
- The Pattern Speeds of M51, M83, and NGC 6946 Using CO and the Tremaine-Weinberg Method. *P. Zimmer, R. J. Rand, & J. T. McGraw.* 607, 285 (2004)
- The First Measured Electron Temperatures for Metal-rich H II Regions in M51. *Donald R. Garnett, Robert C. Kennicutt, Jr., & Fabio Bresolin.* 607, 121 (2004)
- The Formation of Dust Lanes: Implications for Galaxy Evolution. *Julianne J. Dalcanton, Peter Joachim, & Rebecca A. Bernstein.* 608, 189 (2004)

GALAXIES: STARBURST

- Further Multiwavelength Observations of the SSA 22 Ly α -emitting “Blob.” *S. C. Chapman, D. Scott, R. A. Windhorst, D. T. Frayer, C. Borys, G. F. Lewis, & R. J. Ivison.* 606, 85 (2004)
- Chandra Observations of the Three Most Metal Deficient Blue Compact Dwarf Galaxies Known in the Local Universe. *SBS 0335–052, SBS 0335–052W, and I Zw 18. Trinh X. Thuan, Franz E. Bauer, Polichronis Papaderos, & Yuri I. Izotov.* 606, 213 (2004)
- Missing Massive Stars in Starbursts: Stellar Temperature Diagnostics and the Initial Mass Function. *J. R. Rigby & G. H. Rieke.* 606, 237 (2004)
- The Superwind Galaxy NGC 4666: Gravitational Interactions and the Influence of the Resulting Starburst on the Interstellar Medium. *Fabian Walter, Michael Dahlem, & Ute Lisenfeld.* 606, 258 (2004)
- The Star Formation Rate and Dense Molecular Gas in Galaxies. *Yu Gao & Philip M. Solomon.* 606, 271 (2004)
- The Faint Counterparts of Max-Planck-Millimeter-Bolometer (MAMBO) Millimeter Sources near the New Technology Telescope Deep Field. *H. Dannerbauer, M. D. Lehnert, D. Lutz, L. Tacconi, F. Bertoldi, C. Carilli, R. Genzel, & K. M. Menten.* 606, 664 (2004)
- A High Spatial Resolution X-Ray and H α Study of Hot Gas in the Halos of Star-Forming Disk Galaxies. II. Quantifying Supernova Feedback. *David K. Strickland, Timothy M. Heckman, Edward J. M. Colbert, Charles G. Hoopes, & Kimberly A. Weaver.* 606, 829 (2004)
- The Radio Continuum of the Metal-deficient Blue Compact Dwarf Galaxy SBS 0335–052. *Leslie K. Hunt, Kristy K. Dyer, Trinh X. Thuan, & James S. Ulvestad.* 606, 853 (2004)
- Stellar and Gaseous Abundances in M82. *L. Origlia, P. Ranalli, A. Comastri, & R. Maiolino.* 606, 862 (2004)
- E+A Galaxies and the Formation of Early Type Galaxies at $z \sim 0$. *Yujin Yang, Ann I. Zabludoff, Dennis Zaritsky, Tod R. Lauer, & J. Christopher Mihos.* 607, 258 (2004)

The Complex Neutral Gas Dynamics of the Dwarf Starburst Galaxy NGC 625. *John M. Cannon, N. M. McClure-Griffiths, Evan D. Skillman, & Stéphanie Côté.* 607, 274 (2004)

Hubble Space Telescope Imaging and Keck Spectroscopy of $z \approx 6$ i-Band Dropout Galaxies in the Advanced Camera for Surveys GOODS Fields. *Elizabeth R. Stanway, Andrew J. Bunker, Richard G. McMahon, Richard S. Ellis, Tommaso Treu, & Patrick J. McCarthy.* 607, 704 (2004)

Luminous Infrared Galaxies as Plausible Gamma-Ray Sources for the Gamma-Ray Large Area Space Telescope and the Imaging Atmospheric Cerenkov Telescopes. *Diego F. Torres, Olaf Reimer, Eva Domingo-Santamaría, & Seth W. Digel.* 607, L99 (2004)

X-Ray Nondetection of the Ly α Emitters at $z \sim 4.5$. *J. X. Wang, J. E. Rhoads, S. Malhotra, S. Dawson, D. Stern, A. Dey, T. M. Heckman, C. A. Norman, & H. Spinrad.* 608, L21 (2004)

Metal Enrichment in Near-Infrared Luminous Galaxies at $z \sim 2$: Signatures of Proto-Elliptical Galaxies? *D. F. de Mello, E. Daddi, A. Renzini, A. Cimatti, S. di Serego Alighieri, L. Pozzetti, & G. Zamorani.* 608, L29 (2004)

Extended Tidal Structure in Two Ly α -Emitting Starburst Galaxies. *John M. Cannon, Evan D. Skillman, Daniel Kunth, Claus Leitherer, Miguel Mas-Hesse, Göran Östlin, & Artashes Petrosian.* 608, 768 (2004)

GALAXIES: STAR CLUSTERS

- An Explanation for Metallicity Effects on X-Ray Binary Properties. *Thomas J. Maccarone, Arunav Kundu, & Stephen E. Zepf.* 606, 430 (2004)
- E+A Galaxies and the Formation of Early Type Galaxies at $z \sim 0$. *Yujin Yang, Ann I. Zabludoff, Dennis Zaritsky, Tod R. Lauer, & J. Christopher Mihos.* 607, 258 (2004)
- Dynamical Friction on Galactic Center Star Clusters with an Intermediate-Mass Black Hole. *Sungsoo S. Kim, Donald F. Figer, & Mark Morris.* 607, L123 (2004)
- Probing the Red Giant Branch Phase Transition: Near-Infrared Photometry of Six Intermediate-Age Large Magellanic Cloud Clusters. *Francesco R. Ferraro, Livia Origlia, Vincenzo Testa, & Claudia Maraston.* 608, 772 (2004)

GALAXIES: STATISTICS

- The Size of the Longest Filaments in the Universe. *Somnath Bharadwaj, Suketu P. Bhavsar, & Jatish V. Sheth.* 606, 25 (2004)
- The Statistical Properties of Galaxies Containing Ultraluminous X-Ray Objects. *A. Ptak & E. Colbert.* 606, 291 (2004)
- The Three-dimensional Power Spectrum of Galaxies from the Sloan Digital Sky Survey. *Max Tegmark, Michael R. Blanton, Michael A. Strauss, Fiona Hoyle, David Schlegel, Roman Scoccimarro, Michael S. Vogele, David H. Weinberg, Idit Zehavi, Andreas Berlind, Tamás Budavari, Andrew Connolly, Daniel J. Eisenstein, Douglas Finkbeiner, Joshua A. Frieman, James E. Gunn, Andrew J. S. Hamilton, Lam Hui, Bhuvnesh Jain, David Johnston, Stephen Kent, Huan Lin, Reiko Nakajima, Robert C. Nichol, Jeremiah P. Ostriker, Adrian Pope, Ryan Scranton, Uroš Seljak, Ravi K. Sheth, Albert Stebbins, Alexander S. Szalay, István Szapudi, Licia Verde, Yongzhong Xu, James Annis, Neta A. Bahcall, J. Brinkmann, Scott Burles, Francisco J. Castander, István Csabai, Jon Loveday, Mamoru Doi, Masataka Fukugita, J. Richard Gott III, Greg Hennessy, David W. Hogg, Željko Ivezić, Gillian R. Knapp, Don Q. Lamb, Brian C. Lee, Robert H. Lupton, Timothy A. Mackay, Peter Kunszt, Jeffrey A. Munn, Liam O’Connell, John Peoples, Jeffrey R. Pier, Michael Richmond, Constance Rockosi, Donald P. Schneider, Christopher Stoughton, Douglas L. Tucker, Daniel E. Vanden Berk, Brian Yanny, & Donald G. York.* 606, 702 (2004)
- Comparison of Bar Strengths and Fractions of Bars in Active and Nonactive Galaxies. *Eija Laurikainen, Heikki Salo, & Ronald Buta.* 607, 103 (2004)
- A Redshift Survey of Nearby Galaxy Groups: The Shape of the Mass Density Profile. *Andisheh Mahdavi & Margaret J. Geller.* 607, 202 (2004)
- Companions to Isolated Elliptical Galaxies: Revisiting the Bothun-Sullivan Sample. *Barry F. Madore, Wendy L. Freedman, & Gregory D. Bothun.* 607, 810 (2004)
- On Departures from a Power Law in the Galaxy Correlation Function. *Idit Zehavi, David H. Weinberg, Zheng Zheng, Andreas A. Berlind, Joshua A. Frieman, Román Scoccimarro, Ravi K. Sheth, Michael R. Blanton, Max Tegmark, Houjun J. Mo, Neta A. Bahcall, Jon Brinkmann, Scott Burles, István Csabai, Masataka Fukugita, James E. Gunn, Don Q. Lamb, Jon Loveday, Robert H. Lupton, Avery Meiksin, Jeffrey A. Munn, Robert C. Nichol, David Schlegel, Donald P. Schneider, Mark Subba Rao, Alexander S. Szalay, Alan Uomoto, & Donald G. York.* 608, 16 (2004)

GALAXIES: STELLAR CONTENT

- Missing Massive Stars in Starbursts: Stellar Temperature Diagnostics and the Initial Mass Function. *J. R. Rigby & G. H. Rieke.* 606, 237 (2004)
- Variations in Star Formation History and the Red Giant Branch Tip. *Michael K. Barker, Ata Sarajedini, & Jason Harris.* 606, 869 (2004)
- E+A Galaxies and the Formation of Early Type Galaxies at $z \sim 0$. *Yujin Yang, Ann I. Zabludoff, Dennis Zaritsky, Tod R. Lauer, & J. Christopher Mihos.* 607, 258 (2004)
- Photometric Variability among the Brightest Asymptotic Giant Branch Stars near the Center of M32. *T. J. Davidge & F. Rigaut.* 607, L25 (2004)
- The Effect of Metallicity on Cepheid-based Distances. *Shoko Sakai, Laura Ferrarese, Robert C. Kennicutt, Jr., & Abhijit Saha.* 608, 42 (2004)
- The Identification of Blue Horizontal-Branch Stars in the Integrated Spectra of Globular Clusters. *Ricardo P. Schiavon, James A. Rose, Stéphane Courteau, & Lauren A. MacArthur.* 608, L33 (2004)
- Nearly 5000 Distant Early-Type Galaxies in COMBO-17: A Red Sequence and Its Evolution since $z \sim 1$. *Eric F. Bell, Christian Wolf, Klaus Meisenheimer, Hans-Walter Rix, Andrea Borch, Simon Dye, Martina Kleinheinrich, Lutz Wisotzki, & Daniel H. McIntosh.* 608, 752 (2004)

GALAXIES: STRUCTURE

- The Superwind Galaxy NGC 4666: Gravitational Interactions and the Influence of the Resulting Starburst on the Interstellar Medium. *Fabian Walter, Michael Dahlem, & Ute Lisenfeld.* 606, 258 (2004)
- A Self-Consistent Study of Triaxial Black Hole Nuclei. *M. Y. Poon & David Merritt.* 606, 774 (2004)
- Chaotic Loss Cones and Black Hole Fueling. *David Merritt & M. Y. Poon.* 606, 788 (2004)
- On Constraining the Smoothed Particle Hydrodynamics Kernel Radius in Galaxy Simulations. *Peter R. Williams, David K. Churches, & Alistair H. Nelson.* 607, 1 (2004)
- X-Ray Triple Rings around the M87 Jets in the Central Virgo Cluster. *Hua Feng, Shuang-Nan Zhang, Yu-Qing Lou, & Ti-Pei Li.* 607, L95 (2004)

GALAXY: ABUNDANCES

- Boron Benchmarks for the Galactic Disk. *Ann Merchant Boesgaard, Elizabeth J. McGrath, David L. Lambert, & Katia Cunha.* 606, 306 (2004)
- Chemical Abundances for a Sample of Southern OB Stars. II. The Outer Disk. *Simone Daflon, Katia Cunha, & Keith Butler.* 606, 514 (2004)

GALAXY: CENTER

- X-Ray Scattering Halos from the Galactic Center: Implications for Diffuse Emission around Sagittarius A*. *Jonathan C. Tan & B. T. Draine.* 606, 296 (2004)
- On the Nature of the Variable Infrared Emission from Sagittarius A*. *Feng Yuan, Eliot Quataert, & Ramesh Narayan.* 606, 894 (2004)
- Detection of Sub-TeV Gamma Rays from the Galactic Center Direction by CANGAROO-II. *K. Tsuchiya, R. Enomoto, L. T. Ksenofontov, M. Mori, T. Naito, A. Asahara, G. V. Bicknell, R. W. Clay, Y. Doi, P. G. Edwards, S. Gunji, S. Hara, T. Hara, T. Hattori, Sei. Hayashi, C. Itoh, S. Kabuki, F. Kajino, H. Katagiri, A. Kawachi, T. Kifune, H. Kubo, T. Kurihara, R. Kurosaka, J. Kushida, Y. Matsubara, Y. Miyashita, Y. Mizumoto, H. Moro, H. Muraishi, Y. Muraki, T. Nakase, D. Nishida, K. Nishijima, M. Ohishi, K. Okumura, J. R. Patterson, R. J. Protheroe, N. Sakamoto, K. Sakurazawa, D. L. Swaby, T. Tanimori, H. Tanimura, G. Thornton, F. Tokanai, T. Uchida, S. Watanabe, T. Yamaoka, S. Yanagita, T. Yoshida, & T. Yoshikoshi.* 606, L115 (2004)
- New Nonthermal Filaments at the Galactic Center: Are They Tracing a Globally Ordered Magnetic Field? *T. N. LaRosa, Michael E. Nord, T. Joseph, W. Lazio, & Namir E. Kassim.* 607, 302 (2004)
- Dynamical Friction on Galactic Center Star Clusters with an Intermediate-Mass Black Hole. *Sungsoo S. Kim, Donald F. Figer, & Mark Morris.* 607, L123 (2004)
- TeV Gamma-Ray Observations of the Galactic Center. *K. Kosack, H. M. Badran, I. H. Bond, P. J. Boyle, S. M. Bradbury, J. H. Buckley, D. A. Carter-Lewis, O. Celik, V. Connaughton, W. Cui, M. Daniel, M. D'Vali, I. de la Calle Perez, C. Duke, A. Falcone, D. J. Fegan, S. J. Fegan, J. P. Finley, L. F. Fortson, J. A. Gaidos, S. Gammell, K. Gibbs, G. H. Gillanders, J. Grube, K. Gutierrez, J. Hall, T. A. Hall, D. Hanna, A. M. Hillas, J. Holder, D. Horan, A. Jarvis, M. Jordon, G. E. Kenny, M. Kertzman, D. Kieda, J. Kildea, J. Knapp, H. Krawczynski, F. Krennrich, M. J. Lang, S. Le Bohec, E. Linton, J. Lloyd-Evans, A. Milovanovic, J. McEnery, P. Moriarty, D. Muller, T. Nagai, S. Nolan, R. A. Ong, R. Palladini, D. Petry, B. Power-Mooney, J. Quinn, M. Quinn,*

K. Ragan, P. Rebillot, P. T. Reynolds, H. J. Rose, M. Schroedter, G. H. Sembrski, S. P. Swordy, A. Syson, V. V. Vassiliev, S. P. Wakely, G. Walker, T. C. Weekes, & J. Zweerink. 608, L97 (2004)

GALAXY: DISK

- Boron Benchmarks for the Galactic Disk. *Ann Merchant Boesgaard, Elizabeth J. McGrath, David L. Lambert, & Katia Cunha.* 606, 306 (2004)

Chemical Abundances for a Sample of Southern OB Stars. II. The Outer Disk. *Simone Daflon, Katia Cunha, & Keith Butler.* 606, 514 (2004)

GALAXY: EVOLUTION

- Photoionized Gas in Dark-Matter Minihalos in the Galactic Halo and Local Group. *Orly Gnat & Amiel Sternberg.* 608, 229 (2004)

GALAXY: FORMATION

- Photoionized Gas in Dark-Matter Minihalos in the Galactic Halo and Local Group. *Orly Gnat & Amiel Sternberg.* 608, 229 (2004)

GALAXY: GENERAL

- The First IBIS/ISGRI Soft Gamma-Ray Galactic Plane Survey Catalog. *A. J. Bird, E. J. Barlow, L. Bassani, A. Bazzano, A. Bodaghe, F. Capitanio, M. Cocchi, M. Del Santo, A. J. Dean, A. B. Hill, F. Lebrun, G. Malaguti, A. Malizia, R. Much, S. E. Shaw, J. B. Stephen, R. Terrier, P. Ubertini, & R. Walter.* 607, L33 (2004)

GALAXY: GLOBULAR CLUSTERS: GENERAL

- An Explanation for Metallicity Effects on X-Ray Binary Properties. *Thomas J. Maccarone, Arunav Kundu, & Stephen E. Zepf.* 606, 430 (2004)
- Giant Metrewave Radio Telescope Discovery of a Millisecond Pulsar in a Very Eccentric Binary System. *Paulo C. Freire, Yashwant Gupta, Scott M. Ransom, & C. H. Ishwara-Chandra.* 606, L53 (2004)
- Ultracompact Binaries as Bright X-Ray Sources in Elliptical Galaxies. *Lars Bildsten & Christopher J. Deloye.* 607, L119 (2004)
- The Identification of Blue Horizontal-Branch Stars in the Integrated Spectra of Globular Clusters. *Ricardo P. Schiavon, James A. Rose, Stéphane Courteau, & Lauren A. MacArthur.* 608, L33 (2004)
- An Insight into the Reaction Rates of the Ne-Ne and Mg-Al Chains from the Abundance Anomalies in Globular Cluster Red Giants. *Masayuki Aikawa, Masayuki Y. Fujimoto, & Kiyoshi Kato.* 608, 983 (2004)

GALAXY: GLOBULAR CLUSTERS: INDIVIDUAL**Messier Number: M3**

- First Evidence of Circumstellar Disks around Blue Straggler Stars. *Orsola De Marco, Thierry Lanz, John A. Ouellette, David Zurek, & Michael M. Shara.* 606, L151 (2004)

Messier Number: M12

- The Luminosity Function and Color-Magnitude Diagram of the Globular Cluster M12. *Jonathan R. Hargis, Eric L. Sandquist, & Michael Bolte.* 608, 243 (2004)

NGC Number: NGC 1851

- Giant Metrewave Radio Telescope Discovery of a Millisecond Pulsar in a Very Eccentric Binary System. *Paulo C. Freire, Yashwant Gupta, Scott M. Ransom, & C. H. Ishwara-Chandra.* 606, L53 (2004)

NGC Number: NGC 6397

- First Evidence of Circumstellar Disks around Blue Straggler Stars. *Orsola De Marco, Thierry Lanz, John A. Ouellette, David Zurek, & Michael M. Shara.* 606, L151 (2004)

NGC Number: NGC 6752

- First Evidence of Circumstellar Disks around Blue Straggler Stars. *Orsola De Marco, Thierry Lanz, John A. Ouellette, David Zurek, & Michael M. Shara.* 606, L151 (2004)

GALAXY: HALO

- O VI, N V, and C IV in the Galactic Halo. II. Velocity-Resolved Observations with the Hubble Space Telescope and Far Ultraviolet Spectroscopic Explorer. *Remy Indebetouw & J. Michael Shull.* 607, 309 (2004)
- Resolving the Nature of the Large Magellanic Cloud Microlensing Event MACHO-LMC-5. *A. J. Drake, K. H. Cook, & S. C. Keller.* 607, L29 (2004)

GALAXY: KINEMATICS AND DYNAMICS

- Dynamical Friction on Galactic Center Star Clusters with an Intermediate-Mass Black Hole. *Sungsoo S. Kim, Donald F. Figer, & Mark Morris.* 607, L123 (2004)
- A Distant Extended Spiral Arm in the Fourth Quadrant of the Milky Way. *N. M. McClure-Griffiths, John M. Dickey, B. M. Gaensler, & A. J. Green.* 607, L127 (2004)

GALAXY: NUCLEUS

- TeV Gamma-Ray Observations of the Galactic Center. *K. Kosack, H. M. Badran, I. H. Bond, P. J. Boyle, S. M. Bradbury, J. H. Buckley, D. A. Carter-Lewis, O. Celik, V. Connaughton, W. Cui, M. Daniel, M. D'Vali, I. de la Calle Perez, C. Duke, A. Falcone, D. J. Fegan, S. J. Fegan, J. P. Finley, L. F. Fortson, J. A. Gaidos, S. Gammell, K. Gibbs, G. H. Gillanders, J. Grube, K. Gutierrez, J. Hall, T. A. Hall, D. Hanna, A. M. Hillas, J. Holder, D. Horan, A. Jarvis, M. Jordon, G. E. Kenny, M. Kertzman, D. Kieda, J. Kildea, J. Knapp, H. Krawczynski, F. Krennrich, M. J. Lang, S. Le Bohec, E. Linton, J. Lloyd-Evans, A. Milovanovic, J. McEnery, P. Moriarty, D. Muller, T. Nagai, S. Nolan, R. A. Ong, R. Pullassini, D. Petry, B. Power-Mooney, J. Quinn, M. Quinn, K. Ragan, P. Rebillot, P. T. Reynolds, H. J. Rose, M. Schroedter, G. H. Sembroski, S. P. Swordy, A. Syson, V. V. Vassiliev, S. P. Wakely, G. Walker, T. C. Weekes, & J. Zweerink.* 608, L97 (2004)

GALAXY: OPEN CLUSTERS AND ASSOCIATIONS: GENERAL

- Models for Solar Abundance Stars with Gravitational Settling and Radiative Accelerations: Application to M67 and NGC 188. *G. Michaud, O. Richard, J. Richer, & Don A. Vandenberg.* 606, 452 (2004)
- Deep Near-Infrared Observations of the W3 Main Star-forming Region. *D. K. Ojha, M. Tamura, Y. Nakajima, M. Fukagawa, K. Sugitani, C. Nagashima, T. Nagayama, T. Nagata, S. Sato, A. J. Pickles, & K. Ogura.* 608, 797 (2004)

GALAXY: OPEN CLUSTERS AND ASSOCIATIONS: INDIVIDUAL

Messier Number: M67

- Models for Solar Abundance Stars with Gravitational Settling and Radiative Accelerations: Application to M67 and NGC 188. *G. Michaud, O. Richard, J. Richer, & Don A. Vandenberg.* 606, 452 (2004)

NGC Number: NGC 188

- Models for Solar Abundance Stars with Gravitational Settling and Radiative Accelerations: Application to M67 and NGC 188. *G. Michaud, O. Richard, J. Richer, & Don A. Vandenberg.* 606, 452 (2004)

NGC Number: NGC 2516

- Coronal Variability in the Young Cluster NGC 2516. *S. J. Wolk, F. R. Harnden, Jr., S. S. Murray, N. R. Adams, F. Damiani, E. Flaccomio, G. Micela, S. Sciortino, & R. D. Jeffries.* 606, 466 (2004)

NGC Number: NGC 6530

- A Deep Chandra X-Ray Observation of the Rich Young Cluster NGC 6530. I. The X-Ray Source Catalog and the Cluster Population. *F. Damiani, E. Flaccomio, G. Micela, S. Sciortino, F. R. Harnden, Jr., & S. S. Murray.* 608, 781 (2004)

Name: Hyades

- The O VI and C III Lines at 1032 and 977 Å in Hyades F Stars. *Erika Böhm-Vitense, Richard D. Robinson, & Kenneth G. Carpenter.* 606, 1174 (2004)

Name: TW Hydrae

- A Chandra Observation of a TW Hydrae Association Brown Dwarf. *John E. Gizis & Ravi Bharat.* 608, L113 (2004)

Name: Orion Nebula Cluster

- Hubble Space Telescope WFPC2 Study of the Trapezium Cluster: The Influence of Circumstellar Disks on the Initial Mass Function. *M. Robberto, J. Song, G. Mora Carrillo, S. V. W. Beckwith, R. B. Makidon, & N. Panagia.* 606, 952 (2004)

GALAXY: STRUCTURE

- Are Supershells Powered by Multiple Supernovae? Modeling the Radio Pulsar Population Produced by OB Associations. *Rosalba Perna & Bryan M. Gaensler.* 606, 326 (2004)
- A Distant Extended Spiral Arm in the Fourth Quadrant of the Milky Way. *N. M. McClure-Griffiths, John M. Dickey, B. M. Gaensler, & A. J. Green.* 607, L127 (2004)

GAMMA RAYS: BURSTS

- The Diversity of Gamma-Ray Burst Afterglows and the Surroundings of Massive Stars. *Roger A. Chevalier, Zhi-Yun Li, & Claes Fransson.* 606, 369 (2004)
- The Detailed Optical Light Curve of GRB 030329. *Y. M. Lipkin, E. O. Ofek, A. Gal-Yam, E. M. Leibowitz, D. Poznanski, S. Kaspi, D. Polishook, S. R. Kulkarni, D. W. Fox, E. Berger, N. Mirabal, J. Halpern, M. Bureau, K. Fathi, P. A. Price, B. A. Peterson, A. Frebel, B. Schmidt, J. A. Orosz,*

J. B. Fitzgerald, J. S. Bloom, P. G. van Dokkum, C. D. Bailyn, M. M. Buxton, & M. Barsony. 606, 381 (2004)

- General Relativistic Magnetohydrodynamic Simulations of Collapsars. *Yosuke Mizuno, Shoichi Yamada, Shinji Koide, & Kazumari Shibata.* 606, 395 (2004)

- The Luminosity- E_p Relation within Gamma-Ray Bursts and the Implications for Fireball Models. *E. W. Liang, Z. G. Dai, & X. F. Wu.* 606, L29 (2004)

- Peak Energy–Isotropic Energy Relation in the Off-Axis Gamma-Ray Burst Model. *Ryo Yamazaki, Kunihiro Ioka, & Takashi Nakamura.* 606, L33 (2004)

- Testing the Predictions of the Universal Structured Gamma-Ray Burst Jet Model. *Ehud Nakar, Jonathan Granot, & Dafne Guetta.* 606, L37 (2004)

- High-Energy Cosmic Rays from Gamma-Ray Burst Sources: A Stronger Case. *Eli Waxman.* 606, 988 (2004)

- A Redshift Determination for XRF 020903: First Spectroscopic Observations of an X-Ray Flash. *A. M. Soderberg, S. R. Kulkarni, E. Berger, D. B. Fox, P. A. Price, S. A. Yost, M. P. Hunt, D. A. Frail, R. C. Walker, M. Hamuy, S. A. Shectman, J. P. Halpern, & N. Mirabal.* 606, 994 (2004)

- Relativistic Wind Bubbles and Afterglow Signatures. *Z. G. Dai.* 606, 1000 (2004)

- Nucleosynthesis in Outflows from the Inner Regions of Collapsars. *Jason Pruet, Todd A. Thompson, & R. D. Hoffman.* 606, 1006 (2004)

- Optical Limits on Precursor Emission from Gamma-Ray Bursts with Known Redshift. *C. Blake & J. S. Bloom.* 606, 1019 (2004)

- Swift Pointing and the Association Between Gamma-Ray Bursts and Gravitational Wave Bursts. *Lee Samuel Finn, Badri Krishnan, & Patrick J. Sutton.* 607, 384 (2004)

- Constraints on Off-Axis Gamma-Ray Burst Jets in Type Ibc Supernovae from Late-Time Radio Observations. *A. M. Soderberg, D. A. Frail, & M. H. Wieringa.* 607, L13 (2004)

- A Unified Model of Short and Long Gamma-Ray Bursts, X-Ray-rich Gamma-Ray Bursts, and X-Ray Flashes. *Ryo Yamazaki, Kunihiro Ioka, & Takashi Nakamura.* 607, L103 (2004)

- The Propagation and Eruption of Relativistic Jets from the Stellar Progenitors of Gamma-Ray Bursts. *Wei-qun Zhang, S. E. Woosley, & A. Heger.* 608, 365 (2004)

- Ultrarelativistic Magnetohydrodynamic Jets in the Context of Gamma-Ray Bursts. *Christian Fendt & Rachid Ouyed.* 608, 378 (2004)

- Opaque or Transparent? A Link between Neutrino Optical Depths and the Characteristic Duration of Short Gamma-Ray Bursts. *William H. Lee, Enrico Ramirez-Ruiz, & Dany Page.* 608, L5 (2004)

- The Peak Energy Distribution of the νF_ν Spectra and the Implications for the Jet Structure Models of Gamma-Ray Bursts. *E. W. Liang & Z. G. Dai.* 608, L9 (2004)

- Magnetic Field Generation in Collisionless Shocks: Pattern Growth and Transport. *J. Trier Frederiksen, C. B. Hededal, T. Haugbølle, & Å. Nordlund.* 608, L13 (2004)

- Prompt Ultraviolet-to-Soft X-Ray Emission of Gamma-Ray Bursts: Application to GRB 031203? *Zhuo Li & L. M. Song.* 608, L17 (2004)

- Absorption in Gamma-Ray Burst Afterglows. *G. Stratta, F. Fiore, L. A. Antonelli, L. Piro, & M. De Pasquale.* 608, 846 (2004)

- Chandra Observations of the X-Ray Environs of SN 1998bw/GRB 980425. *C. Kouveliotou, S. E. Woosley, S. K. Patel, A. Levani, R. Blandford, E. Ramirez-Ruiz, R. A. M. J. Wijers, M. C. Weisskopf, A. Tennant, E. Pian, & P. Giommi.* 608, 872 (2004)

- Compton Sailing and Strong Polarization. *David Eichler.* 608, L81 (2004)

- Compton Echoes from Gamma-Ray Bursts: Unveiling Misaligned Jets in Nearby Type Ibc Supernovae. *Enrico Ramirez-Ruiz & Piero Madau.* 608, L89 (2004)

- The Supernova Associated with GRB 031203: SMARTS Optical-Infrared Light Curves from 0.2 to 92 Days. *B. E. Cobb, C. D. Bailyn, P. G. van Dokkum, M. M. Buxton, & J. S. Bloom.* 608, L93 (2004)

GAMMA RAYS: GENERAL

- Search for Cosmic-Ray Point Sources with KASCADE. *T. Antoni, W. D. Apel, A. F. Badea, K. Bekk, A. Bercuci, H. Blümer, H. Bozdog, I. M. Brancus, C. Büttner, K. Daumiller, P. Doll, R. Engel, J. Engler, F. Fessler, H. J. Gils, R. Glasstetter, A. Haungs, D. Heck, J. R. Hörandel, K. H. Kampert, H. O. Klages, G. Maier, H. J. Mathes, H. J. Mayer, J. Milke, M. Müller, R. Obenland, J. Oehlschläger, S. Ostapchenko, M. Petcu, H. Rebel, A. Risse, M. Risse, M. Roth, G. Schatz, H. Schieler, J. Scholz, T. Thouw, H. Ulrich, J. van Buren, A. Vardanyan, A. Weindl, J. Wochele, & J. Zabierowski.* 608, 865 (2004)

GAMMA RAYS: OBSERVATIONS

- The Luminosity- E_p Relation within Gamma-Ray Bursts and the Implications for Fireball Models. *E. W. Liang, Z. G. Dai, & X. F. Wu.* 606, L29 (2004)
- Detection of Sub-TeV Gamma Rays from the Galactic Center Direction by CANGAROO-II. *K. Tsuchiya, R. Enomoto, L. T. Ksenofontov, M. Mori, T. Naito, A. Asahara, G. V. Bicknell, R. W. Clay, Y. Doi, P. G. Edwards, S. Gunji, S. Hara, T. Hara, T. Hattori, Sei. Hayashi, C. Itoh, S. Kabuki, F. Kajino, H. Katagiri, A. Kawachi, T. Kifune, H. Kubo, T. Kurihara, R. Kurosaka, J. Kushida, Y. Matsubara, Y. Miyashita, Y. Mizumoto, H. Moro, H. Muraishi, Y. Muraki, T. Nakase, D. Nishida, K. Nishijima, M. Ohishi, K. Okumura, J. R. Patterson, R. J. Protheroe, N. Sakamoto, K. Sakurazawa, D. L. Swaby, T. Tanimori, H. Tanimura, G. Thornton, F. Tokanai, T. Uchida, S. Watanabe, T. Yamaoka, S. Yanagita, T. Yoshida, & T. Yoshikoshi.* 606, L115 (2004)
- The First IBIS/ISGRI Soft Gamma-Ray Galactic Plane Survey Catalog. *A. J. Bird, E. J. Barlow, L. Bassani, A. Bazzano, A. Bodaghe, F. Capitanio, M. Cocchi, M. Del Santo, A. J. Dean, A. B. Hill, F. Lebrun, G. Malaguti, A. Malizia, R. Much, S. E. Shaw, J. B. Stephen, R. Terrier, P. Ubertini, & R. Walter.* 607, L33 (2004)
- High-Energy Gamma-Ray Observations of W Comae with the Solar Tower Atmospheric Cerenkov Effect Experiment (STACEE). *R. A. Scalzo, L. M. Boone, D. Bramel, J. Carson, C. E. Covault, P. Fortin, G. Gauthier, D. M. Gingrich, D. Hanna, A. Jarvis, J. Kildea, T. Lindner, C. Mueller, R. Mukherjee, R. A. Ong, K. J. Ragan, D. A. Williams, & J. Zweerink.* 607, 778 (2004)
- A Search for TeV Gamma-Ray Emission from the PSR B1259–63/SS 2883 Binary System with the Cangaroo-II 10 m Telescope. *A. Kawachi, T. Naito, J. R. Patterson, P. G. Edwards, A. Asahara, G. V. Bicknell, R. W. Clay, R. Enomoto, S. Gunji, S. Hara, T. Hara, T. Hattori, Seiichi Hayashi, Shin'ichiro Hayashi, C. Itoh, S. Kabuki, F. Kajino, H. Katagiri, T. Kifune, L. Ksenofontov, H. Kubo, J. Kushida, Y. Matsubara, Y. Mizumoto, M. Mori, H. Moro, H. Muraishi, Y. Muraki, T. Nakase, D. Nishida, K. Nishijima, M. Ohishi, K. Okumura, R. J. Protheroe, K. Sakurazawa, D. L. Swaby, T. Tanimori, F. Tokanai, K. Tsuchiya, H. Tsumoo, T. Uchida, A. Watanabe, S. Watanabe, S. Yanagita, T. Yoshida, & T. Yoshikoshi.* 607, 949 (2004)
- Luminous Infrared Galaxies as Plausible Gamma-Ray Sources for the Gamma-Ray Large Area Space Telescope and the Imaging Atmospheric Cerenkov Telescopes. *Diego F. Torres, Olaf Reimer, Eva Domingo-Santamaría, & Seth W. Digel.* 607, L99 (2004)
- The Peak Energy Distribution of the νF_ν Spectra and the Implications for the Jet Structure Models of Gamma-Ray Bursts. *E. W. Liang & Z. G. Dai.* 608, L9 (2004)
- TeV Gamma-Ray Survey of the Northern Hemisphere Sky Using the Milagro Observatory. *R. Atkins, W. Benbow, D. Berley, E. Blaufuss, J. Bussios, D. G. Coyne, T. DeYoung, B. L. Dingus, D. E. Dorfan, R. W. Ellsworth, L. Fleischer, R. Fleischer, G. Giesler, M. M. Gonzalez, J. A. Goodman, T. J. Haines, E. Hays, C. M. Hoffman, L. A. Kelley, C. P. Lansdell, J. T. Linnemann, J. E. McEnery, R. S. Miller, A. I. Mincer, M. F. Morales, P. Nemethy, D. Noyes, J. M. Ryan, F. W. Samuelson, A. Shoup, G. Simis, A. J. Smith, G. W. Sullivan, D. A. Williams, S. Westerhoff, M. E. Wilson, X. W. Xu, & G. B. Yodh.* 608, 680 (2004)
- Detecting the Attenuation of Blazar Gamma-Ray Emission by Extragalactic Background Light with the Gamma-Ray Large Area Space Telescope. *Andrew Chen, Luis C. Reyes, & Steven Ritz.* 608, 686 (2004)
- The Gamma-Ray Bright BL Lacertae Object RX J1211+2242. *V. Beckmann, P. Favre, F. Tavecchio, T. Bussien, J. Fliri, & A. Wolter.* 608, 692 (2004)
- TeV Gamma-Ray Observations of the Galactic Center. *K. Kosack, H. M. Badran, I. H. Bond, P. J. Boyle, S. M. Bradbury, J. H. Buckley, D. A. Carter-Lewis, O. Celik, V. Connaughton, W. Cui, M. Daniel, M. D'Vali, I. de la Calle Perez, C. Duke, A. Falcone, D. J. Fegan, S. J. Fegan, J. P. Finley, L. F. Fortson, J. A. Gaidos, S. Gammell, K. Gibbs, G. H. Gillanders, J. Grube, K. Guierrez, J. Hall, T. A. Hall, D. Hanna, A. M. Hillas, J. Holder, D. Horan, A. Jarvis, M. Jordon, G. E. Kenny, M. Kertzman, D. Kieda, J. Kildea, J. Knapp, H. Krawczynski, F. Krennrich, M. J. Lang, S. Le Bohec, E. Linton, J. Lloyd-Evans, A. Milovanovic, J. McEnery, P. Moriarty, D. Muller, T. Nagai, S. Nolan, R. A. Ong, R. Pallascini, D. Petry, B. Power-Mooney, J. Quinn, M. Quinn, K. Ragan, P. Rebillot, P. T. Reynolds, H. J. Rose, M. Schroeder, G. H. Sembroski, S. P. Swordy, A. Syson, V. V. Vassiliev, S. P. Wakely, G. Walker, T. C. Weekes, & J. Zweerink.* 608, L97 (2004)

GAMMA RAYS: THEORY

- Peak Energy–Isotropic Energy Relation in the Off-Axis Gamma-Ray Burst Model. *Ryo Yamazaki, Kunihito Ioka, & Takashi Nakamura.* 606, L33 (2004)
- Relativistic Effects and Polarization in Three High-Energy Pulsar Models. *J. Dyks, Alice K. Harding, & B. Rudak.* 606, 1125 (2004)
- High-Altitude Particle Acceleration and Radiation in Pulsar Slot Gaps. *Alex G. Muslimov & Alice K. Harding.* 606, 1143 (2004)
- A Search for TeV Gamma-Ray Emission from the PSR B1259–63/SS 2883 Binary System with the Cangaroo-II 10 m Telescope. *A. Kawachi, T. Naito, J. R. Patterson, P. G. Edwards, A. Asahara, G. V. Bicknell, R. W. Clay, R. Enomoto, S. Gunji, S. Hara, T. Hara, T. Hattori, Seiichi Hayashi, Shin'ichiro Hayashi, C. Itoh, S. Kabuki, F. Kajino, H. Katagiri, T. Kifune, L. Ksenofontov, H. Kubo, J. Kushida, Y. Matsubara, Y. Mizumoto, M. Mori, H. Moro, H. Muraishi, Y. Muraki, T. Nakase, D. Nishida, K. Nishijima, M. Ohishi, K. Okumura, R. J. Protheroe, K. Sakurazawa, D. L. Swaby, T. Tanimori, F. Tokanai, K. Tsuchiya, H. Tsumoo, T. Uchida, A. Watanabe, S. Watanabe, S. Yanagita, T. Yoshida, & T. Yoshikoshi.* 607, 949 (2004)
- Luminous Infrared Galaxies as Plausible Gamma-Ray Sources for the Gamma-Ray Large Area Space Telescope and the Imaging Atmospheric Cerenkov Telescopes. *Diego F. Torres, Olaf Reimer, Eva Domingo-Santamaría, & Seth W. Digel.* 607, L99 (2004)
- A Unified Model of Short and Long Gamma-Ray Bursts, X-Ray-rich Gamma-Ray Bursts, and X-Ray Flashes. *Ryo Yamazaki, Kunihito Ioka, & Takashi Nakamura.* 607, L103 (2004)
- Gamma-Ray Emission Properties from Mature Pulsars in the Galaxy and in the Gould Belt. *K. S. Cheng, L. Zhang, P. Leung, & Z. J. Jiang.* 608, 418 (2004)
- Compton Sailing and Strong Polarization. *David Eichler.* 608, L81 (2004)
- Compton Echoes from Gamma-Ray Bursts: Unveiling Misaligned Jets in Nearby Type Ib/c Supernovae. *Enrico Ramirez-Ruiz & Piero Madau.* 608, L89 (2004)

GRAVITATION

- Evidence of Black Hole Spin in GX 339–4: XMM-Newton/EPIC-pn and RXTE Spectroscopy of the Very High State. *J. M. Miller, A. C. Fabian, C. S. Reynolds, M. A. Nowak, J. Homan, M. J. Freyberg, M. Ehle, T. Belloni, R. Wijnands, M. van der Klis, P. A. Charles, & W. H. G. Lewin.* 606, L131 (2004)
- A General Relativistic Model of Light Propagation in the Gravitational Field of the Solar System: The Static Case. *F. de Felice, M. T. Crosta, A. Vecchiato, M. G. Lattanzi, & B. Bucciarelli.* 607, 580 (2004)
- How Black Holes Get Their Kicks: Gravitational Radiation Recoil Revisited. *Marc Favata, Scott A. Hughes, & Daniel E. Holz.* 607, L5 (2004)
- Consequences of Gravitational Radiation Recoil. *David Merritt, Miloš Milosavljević, Marc Favata, Scott A. Hughes, & Daniel E. Holz.* 607, L9 (2004)
- Supermassive Stars in Quasar Disks. *J. Goodman & Jonathan C. Tan.* 608, 108 (2004)
- Core Formation by a Population of Massive Remnants. *David Merritt, Slawomir Piatek, Simon Portegies Zwart, & Marc Hemsendorf.* 608, L25 (2004)
- Gravitational Binding, Virialization, and the Peculiar Velocity Distribution of the Galaxies. *Bernard Leong & William C. Saslaw.* 608, 636 (2004)

GRAVITATIONAL LENSING

- Beyond the Damping Tail: Cross-Correlating the Kinetic Sunyaev-Zel'dovich Effect with Cosmic Shear. *Olivier Doré, Joseph F. Hennawi, & David N. Spergel.* 606, 46 (2004)
- Properties of Galaxy Dark Matter Halos from Weak Lensing. *Henk Hoekstra, H. K. C. Yee, & Michael D. Gladders.* 606, 67 (2004)
- Chandra Observations of the Cloverleaf Quasar H1413+117: A Unique Laboratory for Microlensing Studies of a LoBAL Quasar. *G. Chartas, M. Eracleous, E. Agol, & S. C. Gallagher.* 606, 78 (2004)
- Resolution of the MACHO-LMC-5 Puzzle: The Jerk-Parallax Microlens Degeneracy. *Andrew Gould.* 606, 319 (2004)
- The Abundance of Low-Luminosity Ly α Emitters at High Redshift. *Michael R. Santos, Richard S. Ellis, Jean-Paul Kneib, Johan Richard, & Konrad Kuijken.* 606, 683 (2004)
- Giant Arc Statistics in Concord with a Concordance Lambda Cold Dark Matter Universe. *Joachim Wambsganss, Paul Bode, & Jeremiah P. Ostriker.* 606, L93 (2004)

- OGLE 2003-BLG-235/MOA 2003-BLG-53: A Planetary Microlensing Event. *I. A. Bond, A. Udalski, M. Juroszynski, N. J. Rattenbury, B. Paczyński, I. Soszynski, L. Wyrzykowski, M. K. Szymański, M. Kubiak, O. Szczechy, K. Zebur, G. Pietrzyński, F. Abe, D. P. Bennett, S. Eguchi, Y. Furuta, J. B. Hearnshaw, K. Kamiya, P. M. Kilmartin, Y. Kurata, K. Masuda, Y. Matsubara, Y. Muraki, S. Noda, K. Okajima, T. Sako, T. Sekiguchi, D. J. Sullivan, T. Sumi, P. J. Tristram, T. Yamagisawa, & P. C. M. Yock.* 606, L155 (2004)
- Halo Asphericity and the Shear Three-Point Function. *Shirley Ho & Martin White.* 607, 40 (2004)
- Spectroscopic Gravitational Lensing and Limits on the Dark Matter Substructure in Q2237+0305. *R. Benton Metcalf, Leonidas A. Moustakas, Andrew J. Bunker, & Ian R. Parry.* 607, 43 (2004)
- A Probable $z \sim 7$ Galaxy Strongly Lensed by the Rich Cluster A2218: Exploring the Dark Ages. *Jean-Paul Kneib, Richard S. Ellis, Michael R. Santos, & Johan Richard.* 607, 697 (2004)
- Early Estimation of Microlensing Event Magnifications. *Michael D. Albrow.* 607, 821 (2004)
- The Effects of Massive Substructures on Image Multiplicities in Gravitational Lenses. *J. D. Cohn & C. S. Kochanek.* 608, 25 (2004)
- The Counterpart to MS 1512—cB58 and a Companion Galaxy. *Harry I. Teplitz, Matthew A. Malkan, & Ian S. McLean.* 608, 36 (2004)
- ### GRAVITATIONAL WAVES
- Constraining the Properties of Supermassive Black Hole Systems Using Pulsar Timing: Application to 3C 66B. *Fredrick A. Jenet, Andrea Lommen, Shane L. Larson, & Linqing Wen.* 606, 799 (2004)
- Swift Pointing and the Association Between Gamma-Ray Bursts and Gravitational Wave Bursts. *Lee Samuel Finn, Badri Krishnan, & Patrick J. Sutton.* 607, 384 (2004)
- How Black Holes Get Their Kicks: Gravitational Radiation Recoil Revisited. *Marc Favata, Scott A. Hughes, & Daniel E. Holz.* 607, L5 (2004)
- Consequences of Gravitational Radiation Recoil. *David Merritt, Miloš Miosavljević, Marc Favata, Scott A. Hughes, & Daniel E. Holz.* 607, L9 (2004)
- Ultracompact Binaries as Bright X-Ray Sources in Elliptical Galaxies. *Lars Bildsten & Christopher J. Doherty.* 607, L119 (2004)
- Core Formation by a Population of Massive Remnants. *David Merritt, Sławomir Piatek, Simon Portegies Zwart, & Marc Hemsendorf.* 608, L25 (2004)
- The First Stellar Binary Black Holes: The Strongest Gravitational Wave Burst Sources. *Krzysztof Belczynski, Tomasz Bulik, & Bronisław Rudak.* 608, L45 (2004)
- ### HYDRODYNAMICS
- Formation of Cool Cores in Galaxy Clusters via Hierarchical Mergers. *Patrick M. Motl, Jack O. Burns, Chris Loken, Michael L. Norman, & Greg Bryan.* 606, 635 (2004)
- Propagation and Dynamics of Relativistic Jets. *Akira Mizuta, Shoichi Yamada, & Hideaki Takabe.* 606, 804 (2004)
- On the Importance of Gas Flow through Porous Bodies for the Formation of Planetesimals. *Gerhard Wurm, Georgi Paraskov, & Oliver Krauss.* 606, 983 (2004)
- Direct Numerical Simulations of Type Ia Supernovae Flames. I. The Landau-Darrieus Instability. *J. B. Bell, M. S. Day, C. A. Rendleman, S. E. Woosley, & M. Zingale.* 606, 1029 (2004)
- The Linear Instability of Astrophysical Flames in Magnetic Fields. *L. J. Dursi.* 606, 1039 (2004)
- The Global Baroclinic Instability in Accretion Disks. II. Local Linear Analysis. *Hubert Klahr.* 606, 1070 (2004)
- The Sun's Reversing Flows and Heat Spike as Caused by g -Modes. *Charles L. Wolff & Hans G. Mayr.* 606, L163 (2004)
- Local Axisymmetric Diffusive Stability of Weakly Magnetized, Differentially Rotating, Stratified Fluids. *Kristen Menou, Steven A. Balbus, & Henk C. Spruit.* 607, 564 (2004)
- The Formation of a Realistic Disk Galaxy in Λ -dominated Cosmologies. *F. Governato, L. Mayer, J. Wadsley, J. P. Gardner, Beth Willman, E. Hayashi, T. Quinn, J. Stadel, & G. Lake.* 607, 688 (2004)
- The Role of Gas in the Merging of Massive Black Holes in Galactic Nuclei. I. Black Hole Merging in a Spherical Gas Cloud. *Andrés Escala, Richard B. Larson, Paolo S. Coppi, & Diego Mardones.* 607, 765 (2004)
- Self-Similar Gravitational Collapse of Radiatively Cooling Spheres. *Masakatsu Murakami, Katsunobu Nishihara, & Tomoyuki Hanawa.* 607, 879 (2004)
- Photoevaporation of Circumstellar Disks around Young Stars. *Andreea S. Font, Ian G. McCarthy, Doug Johnstone, & David R. Ballantyne.* 607, 890 (2004)
- Carbon Ignition in Type Ia Supernovae: An Analytic Model. *S. E. Woosley, S. Wünsch, & M. Kuhlen.* 607, 921 (2004)
- The Propagation and Eruption of Relativistic Jets from the Stellar Progenitors of Gamma-Ray Bursts. *Weiqun Zhang, S. E. Woosley, & A. Heger.* 608, 365 (2004)
- On the Steady Nature of Line-Driven Disk Winds. *Nicolas A. Pereyra, Stanley P. Owocki, D. John Hillier, & David A. Turnshek.* 608, 454 (2004)
- Opaque or Transparent? A Link between Neutrino Optical Depths and the Characteristic Duration of Short Gamma-Ray Bursts. *William H. Lee, Enrico Ramirez-Ruiz, & Dany Page.* 608, L5 (2004)
- Direct Numerical Simulations of Type Ia Supernovae Flames. II. The Rayleigh-Taylor Instability. *J. B. Bell, M. S. Day, C. A. Rendleman, S. E. Woosley, & M. Zingale.* 608, 883 (2004)
- ### INFRARED: GALAXIES
- Missing Massive Stars in Starbursts: Stellar Temperature Diagnostics and the Initial Mass Function. *J. R. Rigby & G. H. Rieke.* 606, 237 (2004)
- The Star Formation Rate and Dense Molecular Gas in Galaxies. *Yu Gao & Philip M. Solomon.* 606, 271 (2004)
- First Star Signature in Infrared Background Anisotropies. *Asantha Cooray, James J. Bock, Brian Keating, Andrew E. Lange, & T. Matsumoto.* 606, 611 (2004)
- The Faint Counterparts of Max-Planck-Millimeter-Bolometer (MAMBO) Millimeter Sources near the New Technology Telescope Deep Field. *H. Dannerbauer, M. D. Lehnert, D. Lutz, L. Tacconi, F. Bertoldi, C. Carilli, R. Genzel, & K. M. Menten.* 606, 664 (2004)
- Stellar and Gaseous Abundances in M82. *L. Origlia, P. Ranalli, A. Comastri, & R. Maiolino.* 606, 862 (2004)
- ### INFRARED: ISM
- High-Resolution 4.7 Micron Keck/NIRSPEC Spectroscopy of the CO Emission from the Disks Surrounding Herbig Ae Stars. *Geoffrey A. Blake & A. C. A. Boegert.* 606, L73 (2004)
- Interstellar H₂ Line Absorption toward LkH α 101. *Sean D. Brittain, Theodore Simon, Craig Kulesa, & Terrence W. Rettig.* 606, 911 (2004)
- The Detection of Cold Dust in Cassiopeia A: Evidence for the Formation of Metallic Needles in the Ejecta. *Eli Dwek.* 607, 848 (2004)
- The Effects of Dust on Compact and Ultracompact H II Regions. *S. Jane Arthur, Stanley E. Kurtz, José Franco, & Marna Y. Albarrán.* 608, 282 (2004)
- ### INFRARED: STARS
- IRAS 18317—0757: A Cluster of Embedded Massive Stars and Protostars. *T. R. Hunter, Q. Zhang, & T. K. Sridharan.* 606, 929 (2004)
- 0.8–13 Micron Spectroscopy of V838 Monocerotis and a Model for Its Emission. *David K. Lynch, Richard J. Rudy, Ray W. Russell, S. Mazuk, Catherine C. Venturini, W. Dimpfl, Lawrence S. Bernstein, Michael L. Sitko, Sergio Fajardo-Acosta, Alan Tokunaga, Roger Knacke, Richard C. Puetter, & R. Brad Perry.* 607, 460 (2004)
- Spectral Classification and Effective Temperatures of L and T Dwarfs Based on Near-Infrared Spectra. *Tadashi Nakajima, Takashi Tsuji, & Kenshi Yanagisawa.* 607, 499 (2004)
- Probing the Red Giant Branch Phase Transition: Near-Infrared Photometry of Six Intermediate-Age Large Magellanic Cloud Clusters. *Francesco R. Ferraro, Livia Origlia, Vincenzo Testa, & Claudia Maraston.* 608, 772 (2004)
- Deep Near-Infrared Observations of the W3 Main Star-forming Region. *D. K. Ojha, M. Tamura, Y. Nakajima, M. Fukagawa, K. Sugitani, C. Nagashima, T. Nagayama, T. Nagata, S. Sato, A. J. Pickles, & K. Ogura.* 608, 797 (2004)
- ### INSTABILITIES
- Chondrule Formation and Protoplanetary Disk Heating by Current Sheets in Nonideal Magnetohydrodynamic Turbulence. *M. K. Ryan Joung, Mordecai-Mark Mac Low, & Denton S. Ebel.* 606, 532 (2004)
- The Global Baroclinic Instability in Accretion Disks. II. Local Linear Analysis. *Hubert Klahr.* 606, 1070 (2004)
- Magnetically Driven Accretion Flows in the Kerr Metric. II. Structure of the Magnetic Field. *Shigenobu Hirose, Julian H. Krolik, Jean-Pierre De Villiers, & John F. Hawley.* 606, 1083 (2004)
- Fine-Tuning the Accretion Disk Clock in Hercules X-1. *M. Still & P. Boyd.* 606, L135 (2004)

- Local Axisymmetric Diffusive Stability of Weakly Magnetized, Differentially Rotating, Stratified Fluids. *Kristen Menou, Steven A. Balbus, & Henk C. Spruit.* 607, 564 (2004)
- Nonlinear Parker Instability with the Effect of Cosmic-Ray Diffusion. *T. Kuwabara, K. Nakamura, & C. M. Ko.* 607, 828 (2004)
- Kelvin-Helmholtz Instability in a Weakly Ionized Medium. *C. Watson, E. G. Zweibel, F. Heitsch, & E. Churchwell.* 608, 274 (2004)
- Magnetic Field Generation in Collisionless Shocks: Pattern Growth and Transport. *J. Trier Frederiksen, C. B. Hededal, T. Haugbolle, & A. Nordlund.* 608, L13 (2004)
- On the Evolution and Stability of a Protoplanetary Disk Dust Layer. *P. Garaud & D. N. C. Lin.* 608, 1050 (2004)
- INSTRUMENTATION: ADAPTIVE OPTICS**
- Gemini Imaging of QSO Host Galaxies at $z \sim 2$. *Scott M. Croom, David Schade, Brian J. Boyle, Tom Shanks, Lance Miller, & Robert J. Smith.* 606, 126 (2004)
- Using Notch-Filter Masks for High-Contrast Imaging of Extrasolar Planets. *John H. Debes, Jian Ge, Marc J. Kuchner, & Michael Rogosky.* 608, 1095 (2004)
- INSTRUMENTATION: DETECTORS**
- A New Measurement of the Intensities of the Heavy Primary Cosmic-Ray Nuclei around 1 TeV amu^{-1} . *F. Gahbauer, G. Hermann, J. R. Hörandel, D. Müller, & A. A. Radu.* 607, 333 (2004)
- Detecting the Attenuation of Blazar Gamma-Ray Emission by Extragalactic Background Light with the Gamma-Ray Large Area Space Telescope. *Andrew Chen, Luis C. Reyes, & Steven Ritz.* 608, 686 (2004)
- INTERPLANETARY MEDIUM**
- Existence of Nanoparticle Dust Grains in the Inner Solar Corona? *Jagdev Singh, Takashi Sakurai, Kiyoshi Ichimoto, Masaaki Hagino, & Tetsuya T. Yamamoto.* 608, L69 (2004)
- ISM: ABUNDANCES**
- High-Resolution Observations of Methyl Cyanide (CH_3CN) toward the Hot Core Regions W51 e1/e2. *A. Remijan, E. C. Sutton, L. E. Snyder, D. N. Friedel, S.-Y. Liu, & C.-C. Pei.* 606, 917 (2004)
- Detection of D_2H^+ in the Interstellar Medium. *C. Vastel, T. G. Phillips, & H. Yoshida.* 606, L127 (2004)
- A New Measurement of the Intensities of the Heavy Primary Cosmic-Ray Nuclei around 1 TeV amu^{-1} . *F. Gahbauer, G. Hermann, J. R. Hörandel, D. Müller, & A. A. Radu.* 607, 333 (2004)
- Photoionized Gas in Dark-Matter Minihalos in the Galactic Halo and Local Group. *Orly Gnat & Amiel Sternberg.* 608, 229 (2004)
- Detection of Vibrationally Excited Ethyl Cyanide in the Interstellar Medium. *David M. Mehringer, J. C. Pearson, Jocelyn Keene, & T. G. Phillips.* 608, 306 (2004)
- ISM: ATOMS**
- H I Absorption of Polarized Emission: A New Technique for Determining Kinematic Distances to Galactic Supernova Remnants. *R. Kothes, T. L. Landecker, & M. Wolleben.* 607, 855 (2004)
- GSH 23.0–0.7+117: A Neutral Hydrogen Shell in the Inner Galaxy. *J. M. Stil, A. R. Taylor, P. G. Martin, T. A. Rothwell, J. M. Dickey, & N. M. McClure-Griffiths.* 608, 297 (2004)
- The Production of H I in Photodissociation Regions and a Comparison with CO (1–0) Emission. *Ronald J. Allen, Harold I. Heaton, & Michael J. Kaufman.* 608, 314 (2004)
- ISM: BUBBLES**
- Are Supershells Powered by Multiple Supernovae? Modeling the Radio Pulsar Population Produced by OB Associations. *Rosalba Perna & Bryan M. Gaensler.* 606, 326 (2004)
- A High Spatial Resolution X-Ray and H α Study of Hot Gas in the Halos of Star-Forming Disk Galaxies. II. Quantifying Supernova Feedback. *David K. Strickland, Timothy M. Heckman, Edward J. M. Colbert, Charles G. Hoopes, & Kimberly A. Weaver.* 606, 829 (2004)
- GSH 23.0–0.7+117: A Neutral Hydrogen Shell in the Inner Galaxy. *J. M. Stil, A. R. Taylor, P. G. Martin, T. A. Rothwell, J. M. Dickey, & N. M. McClure-Griffiths.* 608, 297 (2004)
- ISM: CLOUDS**
- N_2H^+ Observations of Molecular Cloud Cores in Taurus. *Ken'ichi Tatematsu, Tomofumi Umemoto, Ryo Kandori, & Yutaro Sekimoto.* 606, 333 (2004)
- A Hot Envelope around the Southern Coalsack: X-Ray and Far-Ultraviolet Observations. *B-G Andersson, David C. Knauth, S. L. Snowden, R. L. Shelton, & Peter G. Wannier.* 606, 341 (2004)
- Molecular Hydrogen as Baryonic Dark Matter. *Andreas Heithausen.* 606, L13 (2004)
- Interstellar H_2^+ Line Absorption toward LkH α 101. *Sean D. Brittain, Theodore Simon, Craig Kulesa, & Terrence W. Rettig.* 606, 911 (2004)
- The Case for Local Collapse in the W51 Star-forming Region. *Peter K. Sollins, Qizhou Zhang, & Paul T. P. Ho.* 606, 943 (2004)
- Detection of D_2H^+ in the Interstellar Medium. *C. Vastel, T. G. Phillips, & H. Yoshida.* 606, L127 (2004)
- Formation and Collapse of Nonaxisymmetric Protostellar Cores in Planar Magnetic Molecular Clouds. *Shantanu Basu & Glenn E. Ciolek.* 607, L39 (2004)
- Detection of Vibrationally Excited Ethyl Cyanide in the Interstellar Medium. *David M. Mehringer, J. C. Pearson, Jocelyn Keene, & T. G. Phillips.* 608, 306 (2004)
- The Production of H I in Photodissociation Regions and a Comparison with CO (1–0) Emission. *Ronald J. Allen, Harold I. Heaton, & Michael J. Kaufman.* 608, 314 (2004)
- Probing the Early Stages of Low-Mass Star Formation in LDN 1689N: Dust and Water in IRAS 16293–2422A, B, and E. *Ronald Stark, Goeran Sandell, Sara C. Beck, Michiel R. Hogerheijde, Ewine F. van Dishoeck, Peter van der Wal, Floris F. S. van der Tak, Frank Schaefer, Gary J. Melnick, Matt L. N. Ashby, & Gert de Lange.* 608, 341 (2004)
- Deep Near-Infrared Observations of the W3 Main Star-forming Region. *D. K. Ojha, M. Tamura, Y. Nakajima, M. Fukagawa, K. Sugitani, C. Nagashima, T. Nagayama, T. Nagata, S. Sato, A. J. Pickles, & K. Ogura.* 608, 797 (2004)
- ISM: COSMIC RAYS**
- Abundances of Heavy and Ultraheavy Ions in ^3He -rich Solar Flares. *G. M. Mason, J. E. Mazur, J. R. Dwyer, J. R. Jokipii, R. E. Gold, & S. M. Krimigis.* 606, 555 (2004)
- Interstellar H_2^+ Line Absorption toward LkH α 101. *Sean D. Brittain, Theodore Simon, Craig Kulesa, & Terrence W. Rettig.* 606, 911 (2004)
- High-Energy Cosmic Rays from Gamma-Ray Burst Sources: A Stronger Case. *Eli Waxman.* 606, 988 (2004)
- A New Measurement of the Intensities of the Heavy Primary Cosmic-Ray Nuclei around 1 TeV amu^{-1} . *F. Gahbauer, G. Hermann, J. R. Hörandel, D. Müller, & A. A. Radu.* 607, 333 (2004)
- Nonlinear Parker Instability with the Effect of Cosmic-Ray Diffusion. *T. Kuwabara, K. Nakamura, & C. M. Ko.* 607, 828 (2004)
- Numerical Study on Propagation of Ultra-High Energy Cosmic Rays in the Galactic Magnetic Field. *Hiroyuki Yoshiguchi, Shigehiro Nagataki, & Katsuhiko Sato.* 607, 840 (2004)
- Modulation of Cosmic-Ray Electrons in a Nonspherical and Irregular Heliosphere. *S. E. S. Ferreira, M. S. Potgieter, & K. Scherer.* 607, 1014 (2004)
- Luminous Infrared Galaxies as Plausible Gamma-Ray Sources for the Gamma-Ray Large Area Space Telescope and the Imaging Atmospheric Cerenkov Telescopes. *Diego F. Torres, Olaf Reimer, Eva Domingo-Santamaría, & Seth W. Digel.* 607, L99 (2004)
- Search for Cosmic-Ray Point Sources with KASCADE. *T. Antoni, W. D. Apel, A. F. Badea, K. Bekk, A. Bercuci, H. Blümer, H. Bozdog, I. M. Brancus, C. Büttner, K. Daumiller, P. Doll, R. Engel, J. Engler, F. Fessler, H. J. Gils, R. Glasstetter, A. Haungs, D. Heck, J. R. Hörandel, K. H. Kampert, H. O. Klages, G. Maier, H. J. Mathes, H. J. Mayer, J. Milke, M. Müller, R. Obenland, J. Oehlschlager, S. Ostapchenko, M. Petcu, H. Rebel, A. Risse, M. Risse, M. Roth, G. Scharz, H. Schieler, J. Scholz, T. Thouw, H. Ulrich, J. van Buren, A. Vardanyan, A. Weindl, J. Wochele, & J. Zabierowski.* 608, 865 (2004)
- ISM: DUST, EXTINCTION**
- X-Ray Scattering Halos from the Galactic Center: Implications for Diffuse Emission around Sagittarius A*. *Jonathan C. Tan & B. T. Draine.* 606, 296 (2004)
- Numerical Analyses of Isotopic Ratios of Presolar Grains from Supernovae. *Takashi Yoshida & Masa-aki Hashimoto.* 606, 592 (2004)
- A Multiwavelength Scattered Light Analysis of the Dust Grain Population in the GG Tauri Circumbinary Ring. *G. Duchêne, C. McCabe, A. M. Ghez, & B. A. Macintosh.* 606, 969 (2004)
- FIRST-2MASS Sources below the APM Detection Threshold: A Population of Highly Reddened Quasars. *Eilat Glikman, Michael D. Gregg, Mark Lacy, David J. Helfand, Robert H. Becker, & Richard L. White.* 607, 60 (2004)
- The Detection of Cold Dust in Cassiopeia A: Evidence for the Formation of Metallic Needles in the Ejecta. *Eli Dwek.* 607, 848 (2004)

On the Importance of Local-Field Corrections for Polarizable Particles on a Finite Lattice: Application to the Discrete Dipole Approximation. *Adel Ruhlman, Patrick C. Chaumet, & Garnett W. Bryant.* 607, 873 (2004)

The Formation of Dust Lanes: Implications for Galaxy Evolution. *Julianne J. Dalcanton, Peter Yochim, & Rebecca A. Bernstein.* 608, 189 (2004)

The Effects of Dust on Compact and Ultracompact H II Regions. *S. Jane Arthur, Stanley E. Kurtz, José Franco, & Marna Y. Albarrán.* 608, 282 (2004)

Fullerenes and Buckyonions in the Interstellar Medium. *Susana Iglesias-Groth.* 608, L37 (2004)

Absorption in Gamma-Ray Burst Afterglows. *G. Stratta, F. Fiore, L. A. Antonelli, L. Piro, & M. De Pasquale.* 608, 846 (2004)

ISM: GENERAL

Kelvin-Helmholtz Instability in a Weakly Ionized Medium. *C. Watson, E. G. Zweibel, F. Heitsch, & E. Churchwell.* 608, 274 (2004)

ISM: H II REGIONS

Missing Massive Stars in Starbursts: Stellar Temperature Diagnostics and the Initial Mass Function. *J. R. Rigby & G. H. Rieke.* 606, 237 (2004)

The Case for Local Collapse in the W51 Star-forming Region. *Peter K. Sollins, Qizhou Zhang, & Paul T. P. Ho.* 606, 943 (2004)

The Effects of Dust on Compact and Ultracompact H II Regions. *S. Jane Arthur, Stanley E. Kurtz, José Franco, & Marna Y. Albarrán.* 608, 282 (2004)

ISM: HERBIG-HARO OBJECTS

The Irradiated Herbig-Haro Jets near σ Orionis. *Sean M. Andrews, Bo Reipurth, John Bally, & Steve R. Heathcote.* 606, 353 (2004)

McNeil's Nebula in Orion: The Outburst History. *C. Briceño, A. K. Vivas, J. Hernández, N. Calvet, L. Hartmann, T. Megeath, P. Berlind, M. Calkins, & S. Hoyer.* 606, L123 (2004)

The Environment of the Optically Brightest Herbig Ae Star, HD 104237. *C. A. Grady, B. Woodgate, Carlos A. O. Torres, T. Henning, D. Apai, J. Rodmann, Hongchi Wang, B. Stecklum, H. Linz, G. M. Williger, A. Brown, E. Wilkinson, G. M. Harper, G. J. Herczeg, A. Danks, G. L. Vieira, E. Malumuth, N. R. Collins, & R. S. Hill.* 608, 809 (2004)

PV Cephei: Young Star Caught Speeding? *Alyssa A. Goodman & Héctor G. Arce.* 608, 831 (2004)

ISM: INDIVIDUAL

Name: Cassiopeia A

The Detection of Cold Dust in Cassiopeia A: Evidence for the Formation of Metallic Needles in the Ejecta. *Eli Dwek.* 607, 848 (2004)

Name: Coalsack

A Hot Envelope around the Southern Coalsack: X-Ray and Far-Ultraviolet Observations. *B.-G. Andersson, David C. Knauth, S. L. Snowden, R. L. Shelton, & Peter G. Wannier.* 606, 341 (2004)

Name: McNeil's Nebula

IRAS 05436-0007 and the Emergence of McNeil's Nebula. *Bo Reipurth & Colin Aspin.* 606, L119 (2004)

Name: Orion Kleinmann-Low

Using VLBI to Probe the Orion KL Outflow on AU Scales. *Sheperd S. Doeleman, Colin J. Lonsdale, Paul T. Kondratko, & C. Read Predmore.* 607, 361 (2004)

Name: Red Rectangle

Discovery of Blue Luminescence in the Red Rectangle: Possible Fluorescence from Neutral Polycyclic Aromatic Hydrocarbon Molecules? *Uma P. Vijh, Adolf N. Witt, & Karl D. Gordon.* 606, L65 (2004)

Name: Sagittarius B2(LMH)

Detection of Vibrationally Excited Ethyl Cyanide in the Interstellar Medium. *David M. Mehringer, J. C. Pearson, Jocelyn Keene, & T. G. Phillips.* 608, 306 (2004)

Name: Taurus Cloud Complex

N₂H⁺ Observations of Molecular Cloud Cores in Taurus. *Ken'ichi Tatematsu, Tomofumi Umemoto, Ryo Kandori, & Yutaro Sekimoto.* 606, 333 (2004)

Name: Trifid Nebula

Chandra Observation of the Trifid Nebula: X-Ray Emission from the O Star Complex and Actively Forming Pre-Main-Sequence Stars. *Jeonghee Rho, Solange V. Ramirez, Michael F. Corcoran, Kenji Hamaguchi, & Bertrand Lefloch.* 607, 904 (2004)

Name: Tycho's Supernova Remnant

H I Absorption of Polarized Emission: A New Technique for Determining Kinematic Distances to Galactic Supernova Remnants. *R. Kothes, T. L. Landecker, & M. Wolleben.* 607, 855 (2004)

Name: Vela Supernova Remnant

Far Ultraviolet Spectroscopic Explorer Observations of Highly Ionized Gas in the Vela Supernova Remnant. *Jonathan D. Slavin, Joy S. Nichols, & William P. Blair.* 606, 900 (2004)

Alphanumeric: AFGL 2194

IRAS 18317-0757: A Cluster of Embedded Massive Stars and Protostars. *T. R. Hunter, Q. Zhang, & T. K. Sridharan.* 606, 929 (2004)

Alphanumeric: DA 495

H I Absorption of Polarized Emission: A New Technique for Determining Kinematic Distances to Galactic Supernova Remnants. *R. Kothes, T. L. Landecker, & M. Wolleben.* 607, 855 (2004)

Alphanumeric: G23.95+0.15

IRAS 18317-0757: A Cluster of Embedded Massive Stars and Protostars. *T. R. Hunter, Q. Zhang, & T. K. Sridharan.* 606, 929 (2004)

Alphanumeric: G106.3+2.7

H I Absorption of Polarized Emission: A New Technique for Determining Kinematic Distances to Galactic Supernova Remnants. *R. Kothes, T. L. Landecker, & M. Wolleben.* 607, 855 (2004)

Alphanumeric: HH 315

PV Cephei: Young Star Caught Speeding? *Alyssa A. Goodman & Héctor G. Arce.* 608, 831 (2004)

Alphanumeric: HH 669

The Environment of the Optically Brightest Herbig Ae Star, HD 104237. *C. A. Grady, B. Woodgate, Carlos A. O. Torres, T. Henning, D. Apai, J. Rodmann, Hongchi Wang, B. Stecklum, H. Linz, G. M. Williger, A. Brown, E. Wilkinson, G. M. Harper, G. J. Herczeg, A. Danks, G. L. Vieira, E. Malumuth, N. R. Collins, & R. S. Hill.* 608, 809 (2004)

Alphanumeric: IRAS 16293-2422

Probing the Early Stages of Low-Mass Star Formation in LDN 1689N: Dust and Water in IRAS 16293-2422A, B, and E. *Ronald Stark, Goeran Sandell, Sara C. Beck, Michiel R. Hogerheijde, Ewine F. van Dishoeck, Peter van der Wal, Floris F. S. van der Tak, Frank Schaefer, Gary J. Melnick, Matt L. N. Ashby, & Gert de Lange.* 608, 341 (2004)

Alphanumeric: IRAS 18317-0757

IRAS 18317-0757: A Cluster of Embedded Massive Stars and Protostars. *T. R. Hunter, Q. Zhang, & T. K. Sridharan.* 606, 929 (2004)

Alphanumeric: IRAS 19217+1651

Massive Molecular Outflows at High Spatial Resolution. *H. Beuther, P. Schilke, & F. Gueth.* 608, 330 (2004)

Alphanumeric: IRAS 20293+3952

Massive Molecular Outflows at High Spatial Resolution. *H. Beuther, P. Schilke, & F. Gueth.* 608, 330 (2004)

Alphanumeric: SNR 0509-67.5

Raising the Dead: Clues to Type Ia Supernova Physics from the Remnant 0509-67.5. *Jessica S. Warren & John P. Hughes.* 608, 261 (2004)

Alphanumeric: W3

Deep Near-Infrared Observations of the W3 Main Star-forming Region. *D. K. Ojha, M. Tamura, Y. Nakajima, M. Fukagawa, K. Sugitani, C. Nagashima, T. Nagayama, T. Nagata, S. Sato, A. J. Pickles, & K. Ogura.* 608, 797 (2004)

Alphanumeric: W51

High-Resolution Observations of Methyl Cyanide (CH₃CN) toward the Hot Core Regions W51 e1/e2. *A. Remijan, E. C. Sutton, L. E. Snyder, D. N. Friedel, S.-Y. Liu, & C.-C. Pei.* 606, 917 (2004)

ISM: JETS AND OUTFLOWS

The Irradiated Herbig-Haro Jets near σ Orionis. *Sean M. Andrews, Bo Reipurth, John Bally, & Steve R. Heathcote.* 606, 353 (2004)

Testing the Predictions of the Universal Structured Gamma-Ray Burst Jet Model. *Ehud Nakar, Jonathan Granot, & Dafne Guetta.* 606, L37 (2004)

A High Spatial Resolution X-Ray and H α Study of Hot Gas in the Halos of Star-Forming Disk Galaxies. II. Quantifying Supernova Feedback. *David K. Strickland, Timothy M. Heckman, Edward J. M. Colbert, Charles G. Hoopes, & Kimberly A. Weaver.* 606, 829 (2004)

- Using VLBI to Probe the Orion KL Outflow on AU Scales. *Sheperd S. Doeleman, Colin J. Lonsdale, Paul T. Kondratko, & C. Read Predmore.* 607, 361 (2004)
- Kelvin-Helmholtz Instability in a Weakly Ionized Medium. *C. Watson, E. G. Zweibel, F. Heitsch, & E. Churchwell.* 608, 274 (2004)
- Massive Molecular Outflows at High Spatial Resolution. *H. Beuther, P. Schilke, & F. Gueth.* 608, 330 (2004)
- Probing the Early Stages of Low-Mass Star Formation in LBN 1689N: Dust and Water in IRAS 16293–2422A. *B. and E. Ronald Stark, Goeran Sandell, Sara C. Beck, Michiel R. Hogerheijde, Ewine F. van Dishoeck, Peter van der Wal, Floris F. S. van der Tak, Frank Schaefer, Gary J. Melnick, Matt L. N. Ashby, & Gert de Lange.* 608, 341 (2004)
- Ultrarelativistic Magnetohydrodynamic Jets in the Context of Gamma-Ray Bursts. *Christian Fendt & Rachid Ouyed.* 608, 378 (2004)
- The Peak Energy Distribution of the νF_ν Spectra and the Implications for the Jet Structure Models of Gamma-Ray Bursts. *E. W. Liang & Z. G. Dai.* 608, 18 (2004)
- The FU Orionis Binary System and the Formation of Close Binaries. *Bo Reipurth & Colin Aspin.* 608, L65 (2004)
- The Environment of the Optically Brightest Herbig Ae Star, HD 104237. *C. A. Grady, B. Woodgate, Carlos A. O. Torres, T. Henning, D. Apai, J. Rodmann, Hongchi Wang, B. Stecklum, H. Linz, G. M. Williger, A. Brown, E. Wilkinson, G. M. Harper, G. J. Herczeg, A. Danks, G. L. Vieira, E. Malumuth, N. R. Collins, & R. S. Hill.* 608, 809 (2004)
- PV Cephei: Young Star Caught Speeding? *Alyssa A. Goodman & Héctor G. Arce.* 608, 831 (2004)
- ISM: KINEMATICS AND DYNAMICS**
- The Case for Local Collapse in the W51 Star-forming Region. *Peter K. Sollins, Qizhou Zhang, & Paul T. P. Ho.* 606, 943 (2004)
- Formation and Collapse of Nonaxisymmetric Protostellar Cores in Planar Magnetic Molecular Clouds. *Shantanu Basu & Glenn E. Ciolek.* 607, L39 (2004)
- The Effects of Dust on Compact and Ultracompact H II Regions. *S. Jane Arthur, Stanley E. Kurtz, José Franco, & Marna Y. Albarrán.* 608, 282 (2004)
- GSH 23.0–0.7+117: A Neutral Hydrogen Shell in the Inner Galaxy. *J. M. Stil, A. R. Taylor, P. G. Martin, T. A. Rothwell, J. M. Dickey, & N. M. McClure-Griffiths.* 608, 297 (2004)
- ISM: LINES AND BANDS**
- The Mid-Infrared Laboratory Spectra of Naphthalene ($C_{10}H_8$) in Solid H_2O . *S. A. Sandford, M. P. Bernstein, & L. J. Allamandola.* 607, 346 (2004)
- Fullerenes and Buckyonions in the Interstellar Medium. *Susana Iglesias-Groth.* 608, L37 (2004)
- ISM: MAGNETIC FIELDS**
- Effect of Quasi-Orthogonal Emission Modes on the Rotation Measures of Pulsars. *R. Ramachandran, D. C. Backer, Joanna M. Rankin, J. M. Weisberg, & K. E. Devine.* 606, 1167 (2004)
- New Nonthermal Filaments at the Galactic Center: Are They Tracing a Globally Ordered Magnetic Field? *T. N. LaRosa, Michael E. Nord, T. Joseph, W. Lazio, & Namir E. Kassim.* 607, 302 (2004)
- Formation and Collapse of Nonaxisymmetric Protostellar Cores in Planar Magnetic Molecular Clouds. *Shantanu Basu & Glenn E. Ciolek.* 607, L39 (2004)
- Nonlinear Parker Instability with the Effect of Cosmic-Ray Diffusion. *T. Kuwabara, K. Nakamura, & C. M. Ko.* 607, 828 (2004)
- Numerical Study on Propagation of Ultra-High Energy Cosmic Rays in the Galactic Magnetic Field. *Hiroyuki Yoshiguchi, Shigehiro Nagataki, & Katsuhiko Sato.* 607, 840 (2004)
- Modulation of Cosmic-Ray Electrons in a Nonspherical and Irregular Heliosphere. *S. E. S. Ferreira, M. S. Potgieter, & K. Scherer.* 607, 1014 (2004)
- ISM: MOLECULES**
- The Star Formation Rate and Dense Molecular Gas in Galaxies. *Yu Gao & Philip M. Solomon.* 606, 271 (2004)
- N_2H^+ Observations of Molecular Cloud Cores in Taurus. *Ken'ichi Tatematsu, Tomofumi Umemoto, Ryo Kandori, & Yutaro Sekimoto.* 606, 333 (2004)
- Molecular Hydrogen as Baryonic Dark Matter. *Andreas Heithausen.* 606, L13 (2004)
- Discovery of Blue Luminescence in the Red Rectangle: Possible Fluorescence from Neutral Polycyclic Aromatic Hydrocarbon Molecules? *Uma P. Vijh, Adolf N. Witt, & Karl D. Gordon.* 606, L65 (2004)
- High-Resolution 4.7 Micron Keck/NIRSPEC Spectroscopy of the CO Emission from the Disks Surrounding Herbig Ae Stars. *Geoffrey A. Blake & A. C. A. Boogert.* 606, L73 (2004)
- Interstellar H_2^+ Line Absorption toward LkH α 101. *Sean D. Brittain, Theodore Simon, Craig Kulesa, & Terrence W. Rettig.* 606, 911 (2004)
- High-Resolution Observations of Methyl Cyanide (CH_3CN) toward the Hot Core Regions W51 e1/e2. *A. Remijan, E. C. Sutton, L. E. Snyder, D. N. Friedel, S.-Y. Liu, & C.-C. Pei.* 606, 917 (2004)
- Detection of D_2H^+ in the Interstellar Medium. *C. Vastel, T. G. Phillips, & H. Yoshida.* 606, L127 (2004)
- Photoionization of Benzene and Small Polycyclic Aromatic Hydrocarbons in Ultraviolet-processed Astrophysical Ices: A Computational Study. *David E. Woon & Jin-Young Park.* 607, 342 (2004)
- The Mid-Infrared Laboratory Spectra of Naphthalene ($C_{10}H_8$) in Solid H_2O . *S. A. Sandford, M. P. Bernstein, & L. J. Allamandola.* 607, 346 (2004)
- Detection of H_2D^+ : Measuring the Midplane Degree of Ionization in the Disks of DM Tauri and TW Hydrae. *C. Ceccarelli, C. Dominik, B. Lefloch, P. Caselli, & E. Caux.* 607, L51 (2004)
- Precise Rest Frequencies for AlH and AlD ($X^1\Sigma^+$): A Reassessment of the Aluminum Hyperfine Structure. *D. T. Halfen & L. M. Ziurys.* 607, L63 (2004)
- Molecular Hydrogen in the Ionized Region of Planetary Nebulae. *Isabel Aleman & Ruth Gruenwald.* 607, 865 (2004)
- Detection of Vibrationally Excited Ethyl Cyanide in the Interstellar Medium. *David M. Mehringer, J. C. Pearson, Jocelyn Keene, & T. G. Phillips.* 608, 306 (2004)
- The Production of H I in Photodissociation Regions and a Comparison with CO (1–0) Emission. *Ronald J. Allen, Harold I. Heaton, & Michael J. Kaufman.* 608, 314 (2004)
- Ab Initio Direct Trajectory Simulation with Nonadiabatic Transitions of the Dissociative Recombination Reaction $HCNH^+ + e^- \rightarrow HNC/HCN + H$. *Tetsuya Taketsugu, Asami Tajima, Keisaku Ishii, & Tsuneo Hirano.* 608, 323 (2004)
- Probing the Early Stages of Low-Mass Star Formation in LBN 1689N: Dust and Water in IRAS 16293–2422A. *B. and E. Ronald Stark, Goeran Sandell, Sara C. Beck, Michiel R. Hogerheijde, Ewine F. van Dishoeck, Peter van der Wal, Floris F. S. van der Tak, Frank Schaefer, Gary J. Melnick, Matt L. N. Ashby, & Gert de Lange.* 608, 341 (2004)
- Direct Measurement of the $N = 0 \rightarrow 1$ Transition of SH^+ ($X^3\Sigma^-$) by Submillimeter Velocity Modulation Spectroscopy. *C. Savage, A. J. Apponi, & L. M. Ziurys.* 608, L73 (2004)
- ISM: PLANETARY NEBULAE: GENERAL**
- Discovery of an O VI-emitting Nebula around the Hot White Dwarf KPD 0005+5106. *Birgit Otte, W. Van Dyke Dixon, & Ravi Sankrit.* 606, L143 (2004)
- Astrophysical Significance of Asymptotic Giant Branch Stellar Wind Energies Recorded in Meteoritic SiC Grains. *A. B. Verchovsky, I. P. Wright, & C. T. Pillinger.* 607, 611 (2004)
- Molecular Hydrogen in the Ionized Region of Planetary Nebulae. *Isabel Aleman & Ruth Gruenwald.* 607, 865 (2004)
- ISM: PLANETARY NEBULAE: INDIVIDUAL**
- Alphanumeric: CRL 618**
- The Polymerization of Acetylene, Hydrogen Cyanide, and Carbon Chains in the Neutral Layers of C-rich Proto-planetary Nebulae. *José Cernicharo.* 608, L41 (2004)
- ISM: REFLECTION NEBULAE**
- IRAS 05436–0007 and the Emergence of McNeil's Nebula. *Bo Reipurth & Colin Aspin.* 606, L119 (2004)
- ISM: STRUCTURE**
- N_2H^+ Observations of Molecular Cloud Cores in Taurus. *Ken'ichi Tatematsu, Tomofumi Umemoto, Ryo Kandori, & Yutaro Sekimoto.* 606, 333 (2004)
- O VI, N V, and C IV in the Galactic Halo. II. Velocity-Resolved Observations with the Hubble Space Telescope and Far Ultraviolet Spectroscopic Explorer. *Remy Indebetouw & J. Michael Shull.* 607, 309 (2004)
- A Distant Extended Spiral Arm in the Fourth Quadrant of the Milky Way. *N. M. McClure-Griffiths, John M. Dickey, B. M. Gaensler, & A. J. Green.* 607, L127 (2004)
- The Formation of Dust Lanes: Implications for Galaxy Evolution. *Julianne J. Dalcanton, Peter Youchim, & Rebecca A. Bernstein.* 608, 189 (2004)

ISM: SUPERNOVA REMNANTS

- The Radio Continuum of the Metal-deficient Blue Compact Dwarf Galaxy SBS 0335–052. *Leslie K. Hunt, Kristy K. Dyer, Trinh X. Thuan, & James S. Ulvestad.* 606, 853 (2004)
- Far Ultraviolet Spectroscopic Explorer Observations of Highly Ionized Gas in the Vela Supernova Remnant. *Jonathan D. Slavin, Joy S. Nichols, & William P. Blair.* 606, 900 (2004)
- The Detection of Cold Dust in Cassiopeia A: Evidence for the Formation of Metallic Needles in the Ejecta. *Eli Dwek.* 607, 848 (2004)
- H I Absorption of Polarized Emission: A New Technique for Determining Kinematic Distances to Galactic Supernova Remnants. *R. Kothes, T. L. Landecker, & M. Wolleben.* 607, 855 (2004)
- Raising the Deck: Clues to Type Ia Supernova Physics from the Remnant 0509–67.5. *Jessica S. Warren & John P. Hughes.* 608, 261 (2004)

LINE: FORMATION

- What the Optical Recombination Lines Can Tell Us about the Broad-Line Regions of Active Galactic Nuclei. *Kirk T. Korista & Michael R. Goad.* 606, 749 (2004)
- Laboratory Measurements of $3 \rightarrow 2$ X-Ray Emission Lines of Ne-like Ni xix. *M. F. Gu, P. Beiersdorfer, G. V. Brown, H. Chen, K. R. Boyce, R. L. Kelley, C. A. Kilbourne, F. S. Porter, & S. M. Kahn.* 607, L143 (2004)
- The Production of H I in Photodissociation Regions and a Comparison with CO (1–0) Emission. *Ronald J. Allen, Harold I. Heaton, & Michael J. Kaufman.* 608, 314 (2004)
- Nonlinear Electrodynamics and the Surface Redshift of Pulsars. *Herman J. Mosquera Cuesta & José M. Salim.* 608, 925 (2004)
- Elucidating the Correlation of the Quasar Fe II/Mg II Ratio with Redshift. *E. M. Verner & B. A. Peterson.* 608, L85 (2004)

LINE: IDENTIFICATION

- The Mid-Infrared Laboratory Spectra of Naphthalene (C₁₀H₈) in Solid H₂O. *S. A. Sandford, M. P. Bernstein, & L. J. Allamandola.* 607, 346 (2004)
- The Far-Ultraviolet Spectra of TW Hydrae. II. Models of H₂ Fluorescence in a Disk. *Gregory J. Herczeg, Brian E. Wood, Jeffrey L. Linsky, Jeff A. Valenti, & Christopher M. Johns-Krull.* 607, 369 (2004)
- Precise Rest Frequencies for AlH and AlD ($X^1\Sigma^+$): A Reassessment of the Aluminum Hyperfine Structure. *D. T. Halfen & L. M. Ziurys.* 607, L63 (2004)
- Newly Identified Forbidden Transitions within the Ground Configuration of Ions of Very Low Abundance P, Cl, K, and Co. *U. Feldman, E. Landi, & W. Curdt.* 607, 1039 (2004)
- Using the Ultraviolet and Visible Spectrum of Comet 122P/de Vico to Identify the Parent Molecule CS₂. *William M. Jackson, Alessandra Scodinu, Dadong Xu, & Anita L. Cochran.* 607, L139 (2004)
- Existence of Nanoparticle Dust Grains in the Inner Solar Corona? *Jagdev Singh, Takashi Sakurai, Kiyoshi Ichimoto, Masaaki Hagino, & Tetsuya T. Yamamoto.* 608, L69 (2004)
- Nonlinear Electrodynamics and the Surface Redshift of Pulsars. *Herman J. Mosquera Cuesta & José M. Salim.* 608, 925 (2004)

LINE: PROFILES

- What the Optical Recombination Lines Can Tell Us about the Broad-Line Regions of Active Galactic Nuclei. *Kirk T. Korista & Michael R. Goad.* 606, 749 (2004)

MAGNETIC FIELDS

- Magnetic Sunyaev-Zel'dovich Effect in Galaxy Clusters. *Jian Hu & Yu-Qing Lou.* 606, L1 (2004)
- Relativistic Outflow Magnetically Driven by Black Hole Rotation. *Shinji Koide.* 606, L45 (2004)
- Spectral Features in the Thermal Emission from Isolated Neutron Stars: Dependence on Magnetic Field Strengths. *Wynn C. G. Ho & Dong Lai.* 607, 420 (2004)
- The Hot Disk Corona and Magnetic Turbulence in Radio-quiet Active Galactic Nuclei: Observational Constraints. *Jian-Min Wang, Ken-Ya Watarai, & Shin Mineshige.* 607, L107 (2004)
- Distribution of Faraday Rotation Measure in Jets from Active Galactic Nuclei. II. Prediction from our Sweeping Magnetic Twist Model for the Wiggled Parts of Active Galactic Nucleus Jets and Tails. *Hiromitsu Kigure, Yutaka Uchida, Masanori Nakamura, Shigenobu Hirose, & Robert Cameron.* 608, 119 (2004)
- Ultrarelativistic Magnetohydrodynamic Jets in the Context of Gamma-Ray Bursts. *Christian Fendt & Rachid Ouyed.* 608, 378 (2004)
- Reconnection of Magnetic Field Lines near the Solar Surface during Coronal Mass Ejection Propagation. *A. A. Reinard & L. A. Fisk.* 608, 533 (2004)

- Magnetic Field Generation in Collisionless Shocks: Pattern Growth and Transport. *J. Trier Frederiksen, C. B. Heddal, T. Haugbølle, & A. Nordlund.* 608, L13 (2004)

- Nonlinear Electrodynamics and the Surface Redshift of Pulsars. *Herman J. Mosquera Cuesta & José M. Salim.* 608, 925 (2004)

MAGNETOHYDRODYNAMICS: MHD

- General Relativistic Magnetohydrodynamic Simulations of Collapsars. *Yosuke Mizuno, Shoichi Yamada, Shinji Koide, & Kazumari Shibata.* 606, 395 (2004)
- Chondrule Formation and Protoplanetary Disk Heating by Current Sheets in Nonideal Magnetohydrodynamic Turbulence. *M. K. Ryan Joung, Mordecai-Mark Mac Low, & Denton S. Ebel.* 606, 532 (2004)
- Relativistic Outflow Magnetically Driven by Black Hole Rotation. *Shinji Koide.* 606, L45 (2004)
- The Linear Instability of Astrophysical Flames in Magnetic Fields. *L. J. Dursi.* 606, 1039 (2004)
- Magnetically Driven Accretion Flows in the Kerr Metric. II. Structure of the Magnetic Field. *Shigenobu Hirose, Julian H. Krolik, Jean-Pierre De Villiers, & John F. Hawley.* 606, 1083 (2004)
- Magnetic-Field Confinement in the Solar Corona. I. Force-free Magnetic Fields. *N. Flyer, B. Fornberg, S. Thomas, & B. C. Low.* 606, 1210 (2004)
- Damping of Coronal Loop Oscillations: Calculation of Resonantly Damped Kink Oscillations of One-Dimensional Nonuniform Loops. *T. Van Doorselaere, J. Andries, S. Poedts, & M. Goossens.* 606, 1223 (2004)
- Magnetohydrodynamic Simulations of the Formation of Cold Fronts in Clusters of Galaxies Including Heat Conduction. *N. Asai, N. Fukuda, & R. Matsumoto.* 606, L105 (2004)
- Magnetic Floods: A Scenario for the Variability of the Microquasar GRS 1915+105. *M. Tagger, P. Varnière, J. Rodriguez, & R. Pellat.* 607, 410 (2004)
- A Comparison of CME-Associated Atmospheric Waves Observed in Coronal (Fe XII 195 Å) and Chromospheric (He I 10830 Å) Lines. *Holly R. Gilbert, Thomas E. Holzer, Barbara J. Thompson, & Joan T. Burckpile.* 607, 540 (2004)
- Local Axisymmetric Diffusive Stability of Weakly Magnetized, Differentially Rotating, Stratified Fluids. *Kristen Menou, Steven A. Balbus, & Henk C. Spruit.* 607, 564 (2004)
- Formation and Collapse of Nonaxisymmetric Protostellar Cores in Planar Magnetic Molecular Clouds. *Shantanu Basu & Glenn E. Ciolek.* 607, L39 (2004)
- Does Disk Locking Solve the Stellar Angular Momentum Problem? *Sean Matt & Ralph E. Pudritz.* 607, L43 (2004)
- On the Origins of Solar Faculae. *C. U. Keller, M. Schüssler, A. Vögler, & V. Zakharov.* 607, L59 (2004)
- Nonlinear Parker Instability with the Effect of Cosmic-Ray Diffusion. *T. Kuwabara, K. Nakamura, & C. M. Ko.* 607, 828 (2004)
- Distribution of Faraday Rotation Measure in Jets from Active Galactic Nuclei. II. Prediction from our Sweeping Magnetic Twist Model for the Wiggled Parts of Active Galactic Nucleus Jets and Tails. *Hiromitsu Kigure, Yutaka Uchida, Masanori Nakamura, Shigenobu Hirose, & Robert Cameron.* 608, 119 (2004)
- Ultrarelativistic Magnetohydrodynamic Jets in the Context of Gamma-Ray Bursts. *Christian Fendt & Rachid Ouyed.* 608, 378 (2004)
- On Time Evolution and Causality of Force-Free Black Hole Magnetospheres. *Amir Levinson.* 608, 411 (2004)
- Type I Planetary Migration with Magnetohydrodynamic Turbulence. *Gregory Laughlin, Adriane Steinacker, & Fred C. Adams.* 608, 489 (2004)
- Linear Analysis of the Magnetorotational Instability, Including Ambipolar Diffusion, with Application to Protoplanetary Disks. *S. J. Desch.* 608, 509 (2004)
- Numerical Study on the Rotational Collapse of Strongly Magnetized Cores of Massive Stars. *Shoichi Yamada & Hidetomo Sawai.* 608, 907 (2004)
- A Comparison of the Minimum Current Corona to a Magnetohydrodynamic Simulation of Quasi-Static Coronal Evolution. *D. W. Longcope & T. Magara.* 608, 1106 (2004)

MASERS

- Using VLBI to Probe the Orion KL Outflow on AU Scales. *Shepherd S. Doeleman, Colin J. Lonsdale, Paul T. Kondratko, & C. Read Predmore.* 607, 361 (2004)
- Ground-State SiO Maser Emission toward Evolved Stars. *D. A. Boboltz & M. J. Claussen.* 608, 480 (2004)

METEORS, METEORIODS

- Chondrule Formation and Protoplanetary Disk Heating by Current Sheets in Nonideal Magnetohydrodynamic Turbulence. *M. K. Ryan Joung, Mondecail-Mark Mac Low, & Denton S. Ebel.* 606, 532 (2004)
- Astrophysical Significance of Asymptotic Giant Branch Stellar Wind Energies Recorded in Meteoritic SiC Grains. *A. B. Verchovsky, I. P. Wright, & C. T. Pillinger.* 607, 611 (2004)

METHODS: ANALYTICAL

- Gravitational Binding, Virialization, and the Peculiar Velocity Distribution of the Galaxies. *Bernard Leong & William C. Saslaw.* 608, 636 (2004)
- Cosmological Density Distribution Function from the Ellipsoidal Collapse Model in Real Space. *Yasuhiko Ohta, Issha Kayo, & Atsushi Taniya.* 608, 647 (2004)
- Nonlinear Electrodynamics and the Surface Redshift of Pulsars. *Herman J. Mosquera Cuesta & José M. Salim.* 608, 925 (2004)

METHODS: DATA ANALYSIS

- Diagnostics of Neutron Star and Black Hole X-Ray Binaries with X-Ray Shot Widths. *Hua Feng, T. P. Li, & S. N. Zhang.* 606, 424 (2004)
- Measurements of the Singly Ionized Oxygen Auroral Doublet Lines $\lambda\lambda 7320$, 7330 Using High-Resolution Sky Spectra. *Brian D. Sharpee, Tom G. Slanger, David L. Huestis, & Philip C. Cosby.* 606, 605 (2004)
- The Three-dimensional Power Spectrum of Galaxies from the Sloan Digital Sky Survey. *Max Tegmark, Michael R. Blanton, Michael A. Strauss, Fiona Hoyle, David Schlegel, Roman Scoccimarro, Michael S. Vogeley, David H. Weinberg, Idit Zehavi, Andreas Berlind, Tamás Budavari, Andrew Connolly, Daniel J. Eisenstein, Douglas Finkbeiner, Joshua A. Frieman, James E. Gunn, Andrew J. S. Hamilton, Lam Hui, Bhuvnesh Jain, David Johnston, Stephen Kent, Huan Lin, Reiko Nakajima, Robert C. Nichol, Jeremiah P. Ostriker, Adrian Pope, Ryan Scranton, Uroš Seljak, Ravi K. Sheth, Albert Stebbins, Alexander S. Szalay, István Szapudi, Licia Verde, Yongzhong Xu, James Annis, Neta A. Bahcall, J. Brinkmann, Scott Burles, Francisco J. Castander, Istvan Csabai, Jon Loveday, Mamoru Doi, Masataka Fukugita, J. Richard Gott III, Greg Hennessy, David W. Hogg, Željko Ivezić, Gillian R. Knapp, Don Q. Lamb, Brian C. Lee, Robert H. Lupton, Timothy A. Mackay, Peter Kunszt, Jeffrey A. Munn, Liam O'Connell, John Peoples, Jeffrey R. Pier, Michael Richmond, Constance Rockosi, Donald P. Schneider, Christopher Stoughton, Douglas L. Tucker, Daniel E. Vanden Berk, Brian Yanny, & Donald G. York.* 606, 702 (2004)
- On the Excess Dispersion in the Polarization Position Angle of Pulsar Radio Emission. *Mark M. McKinnon.* 606, 1154 (2004)
- The Quest for Microwave Foreground X. *Angélica de Oliveira-Costa, Max Tegmark, R. D. Davies, Carlos M. Gutiérrez, A. N. Lasenby, R. Rebolo, & R. A. Watson.* 606, L89 (2004)
- First Evidence of Circumstellar Disks around Blue Straggler Stars. *Orsola De Marco, Thierry Lanz, John A. Ouellette, David Zurek, & Michael M. Shara.* 606, L151 (2004)
- Three-dimensional Inversion of Time-Distance Helioseismology Data: Ray-Path and Fresnel-Zone Approximations. *S. Couvidat, A. C. Birch, A. G. Kosovichev, & J. Zhao.* 607, 554 (2004)
- Fragmentation Hierarchy of Bright Sungrazing Comets and the Birth and Orbital Evolution of the Kreutz System. I. Two-Superfragment Model. *Zdenek Sekanina & Paul W. Chodas.* 607, 620 (2004)
- Early Estimation of Microlensing Event Magnifications. *Michael D. Albrow.* 607, 821 (2004)
- Asymmetries in the Local Curvature of the Wilkinson Microwave Anisotropy Probe Data. *Frode K. Hansen, Paolo Cabella, Domenico Marinucci, & Nicola Vittorio.* 607, L67 (2004)

METHODS: LABORATORY

- Precise Rest Frequencies for AlH and AlD ($X^1\Sigma^+$): A Reassessment of the Aluminum Hyperfine Structure. *D. T. Halfen & L. M. Ziurys.* 607, L63 (2004)
- Direct Measurement of the $N = 0 \rightarrow 1$ Transition of SH^+ ($X^3\Sigma^-$) by Submillimeter Velocity Modulation Spectroscopy. *C. Savage, A. J. Apponi, & L. M. Ziurys.* 608, L73 (2004)
- Using Notch-Filter Masks for High-Contrast Imaging of Extrasolar Planets. *John H. Debes, Jian Ge, Marc J. Kuchner, & Michael Rogosky.* 608, 1095 (2004)

METHODS: N-BODY SIMULATIONS

- Structure of Dark Matter Halos from Hierarchical Clustering. III. Shallowing of the Inner Cusp. *Toshiyuki Fukushige, Atsushi Kawai, & Junichiro Makino.* 606, 625 (2004)

- Giant Arc Statistics in Concord with a Concordance Lambda Cold Dark Matter Universe. *Joachim Wambsganss, Paul Bode, & Jeremiah P. Ostriker.* 606, L93 (2004)
- On Constraining the Smoothed Particle Hydrodynamics Kernel Radius in Galaxy Simulations. *Peter R. Williams, David K. Churches, & Alistair H. Nelson.* 607, 1 (2004)
- The Formation of a Realistic Disk Galaxy in Λ -dominated Cosmologies. *F. Governato, L. Mayer, J. Wadsley, J. P. Gardner, Beth Willman, E. Hayashi, T. Quinn, J. Stadel, & G. Lake.* 607, 688 (2004)
- Mock Catalogs for the DEEP2 Redshift Survey. *Renbin Yan, Martin White, & Alison L. Coil.* 607, 739 (2004)
- Generating Hot Gas in Simulations of Disk-Galaxy Major Mergers. *T. J. Cox, Joel Primack, Patrik Jonsson, & Rachel S. Somerville.* 607, L87 (2004)
- Dynamical Friction on Galactic Center Star Clusters with an Intermediate-Mass Black Hole. *Sungsoo S. Kim, Donald F. Figer, & Mark Morris.* 607, L123 (2004)
- Density Profiles of Cold Dark Matter Substructure: Implications for the Missing-Satellites Problem. *Stelios Kazantzidis, Lucio Mayer, Chiara Mastropietro, Jürg Diemand, Joachim Stadel, & Ben Moore.* 608, 663 (2004)

METHODS: NUMERICAL

- The Size of the Longest Filaments in the Universe. *Somnath Bharadwaj, Suketu P. Bhavsar, & Jatish V. Sheth.* 606, 25 (2004)
- Disk Galaxy Formation in a Λ Cold Dark Matter Universe. *Brant Robertson, Naoki Yoshida, Volker Springel, & Lars Hernquist.* 606, 32 (2004)
- General Relativistic Magnetohydrodynamic Simulations of Collapsars. *Yosuke Mizuno, Shoichi Yamada, Shinji Koide, & Kazumari Shibata.* 606, 395 (2004)
- A Transonic Collisionless Model of the Solar Wind. *I. Zouganelis, M. Maksimovic, N. Meyer-Vernet, H. Lamy, & K. Issautier.* 606, 542 (2004)
- Probing the Statistics of the Temperature-Density Relation of the Intergalactic Medium. *Taotao Fang & Martin White.* 606, L9 (2004)
- Relativistic Outflow Magnetically Driven by Black Hole Rotation. *Shinji Koide.* 606, L45 (2004)
- Formation of Cool Cores in Galaxy Clusters via Hierarchical Mergers. *Patrick M. Motl, Jack O. Burns, Chris Loken, Michael L. Norman, & Greg Bryan.* 606, 635 (2004)
- Propagation and Dynamics of Relativistic Jets. *Akira Mizuta, Shoichi Yamada, & Hideaki Takabe.* 606, 804 (2004)
- Direct Numerical Simulations of Type Ia Supernovae Flames. I. The Landau-Darrieus Instability. *J. B. Bell, M. S. Day, C. A. Rendleman, S. E. Woosley, & M. Zingale.* 606, 1029 (2004)
- The Global Baroclinic Instability in Accretion Disks. II. Local Linear Analysis. *Hubert Klahr.* 606, 1070 (2004)
- Giant Arc Statistics in Concord with a Concordance Lambda Cold Dark Matter Universe. *Joachim Wambsganss, Paul Bode, & Jeremiah P. Ostriker.* 606, L93 (2004)
- Thermal Conduction in Simulated Galaxy Clusters. *K. Dolag, M. Jubelgas, V. Springel, S. Borgani, & E. Rasia.* 606, L97 (2004)
- On Constraining the Smoothed Particle Hydrodynamics Kernel Radius in Galaxy Simulations. *Peter R. Williams, David K. Churches, & Alistair H. Nelson.* 607, 1 (2004)
- Density Profiles of Λ CDM Clusters. *Argyro Tasitsiomi, Andrey V. Kravtsov, Stefan Gottloeber, & Anatoly A. Klypin.* 607, 125 (2004)
- On the Origins of Solar Faculae. *C. U. Keller, M. Schüssler, A. Vögler, & V. Zakharov.* 607, L59 (2004)
- Numerical Study on Propagation of Ultra-High Energy Cosmic Rays in the Galactic Magnetic Field. *Hiroyuki Yoshiguchi, Shigehiro Nagataki, & Katsuhiko Sato.* 607, 840 (2004)
- The Propagation and Eruption of Relativistic Jets from the Stellar Progenitors of Gamma-Ray Bursts. *Wei-qun Zhang, S. E. Woosley, & A. Heger.* 608, 365 (2004)
- Direct Numerical Simulations of Type Ia Supernovae Flames. II. The Rayleigh-Taylor Instability. *J. B. Bell, M. S. Day, C. A. Rendleman, S. E. Woosley, & M. Zingale.* 608, 883 (2004)
- On the Evolution and Stability of a Protoplanetary Disk Dust Layer. *P. Garaud & D. N. C. Lin.* 608, 1050 (2004)
- Elucidating the Correlation of the Quasar Fe II/Mg II Ratio with Redshift. *E. M. Vermer & B. A. Peterson.* 608, L85 (2004)

METHODS: STATISTICAL

- Eigenmode Analysis of Galaxy Distributions in Redshift Space. *Takahiko Matsubara, Alexander S. Szalay, & Adrian C. Pope.* 606, 1 (2004)
- Probing the Statistics of the Temperature-Density Relation of the Intergalactic Medium. *Taotao Fang & Martin White.* 606, L9 (2004)
- The Luminosity- E_p Relation within Gamma-Ray Bursts and the Implications for Fireball Models. *E. W. Liang, Z. G. Dai, & X. F. Wu.* 606, L29 (2004)
- Cosmological Parameters from Eigenmode Analysis of Sloan Digital Sky Survey Galaxy Redshifts. *Adrian C. Pope, Takahiko Matsubara, Alexander S. Szalay, Michael R. Blanton, Daniel J. Eisenstein, Jim Gray, Bhuvnesh Jain, Neta A. Bahcall, Jon Brinkmann, Tamas Budavari, Andrew J. Connolly, Joshua A. Frieman, James E. Gunn, David Johnston, Stephen M. Kent, Robert H. Lupton, Avery Meiksin, Robert C. Nichol, Donald P. Schneider, Ryan Scranton, Michael A. Strauss, Istvan Szapudi, Max Tegmark, Michael S. Vogeley, David H. Weinberg, & Idit Zehavi.* 607, 655 (2004)
- Voids in the Two-Degree Field Galaxy Redshift Survey. *Fiona Hoyle & Michael S. Vogeley.* 607, 751 (2004)
- Asymmetries in the Local Curvature of the Wilkinson Microwave Anisotropy Probe Data. *Frode K. Hansen, Paolo Cabella, Domenico Marinucci, & Nicola Vittorio.* 607, L67 (2004)
- The Peak Energy Distribution of the νF_ν Spectra and the Implications for the Jet Structure Models of Gamma-Ray Bursts. *E. W. Liang & Z. G. Dai.* 608, L9 (2004)
- Positional Uncertainties and Detection Limits of ROSAT X-Ray Sources. *Thomas R. Ayres.* 608, 957 (2004)

MOLECULAR DATA

- Detection of D_2H^+ in the Interstellar Medium. *C. Vastel, T. G. Phillips, & H. Yoshida.* 606, L127 (2004)
- Rate Coefficient for $H^+ + H_2(X^1\Sigma_g^+, \nu = 0, J = 0) \rightarrow H(1s) + H_2^+$ Charge Transfer and Some Cosmological Implications. *Daniel Wolf Savin, Predrag S. Krstić, Zoltán Haiman, & Phillip C. Stancil.* 606, L167 (2004)
- The Mid-Infrared Laboratory Spectra of Naphthalene ($C_{10}H_8$) in Solid H_2O . *S. A. Sandford, M. P. Bernstein, & L. J. Allamandola.* 607, 346 (2004)
- Precise Rest Frequencies for AlH and AlD ($X^1\Sigma^+$): A Reassessment of the Aluminum Hyperfine Structure. *D. T. Halfen & L. M. Ziurys.* 607, L63 (2004)
- The Polymerization of Acetylene, Hydrogen Cyanide, and Carbon Chains in the Neutral Layers of C-rich Proto-planetary Nebulae. *José Cernicharo.* 608, L41 (2004)
- Direct Measurement of the $N = 0 \rightarrow 1$ Transition of SH^+ ($X^3\Sigma^-$) by Submillimeter Velocity Modulation Spectroscopy. *C. Savage, A. J. Apponi, & L. M. Ziurys.* 608, L73 (2004)

MOLECULAR PROCESSES

- Detection of D_2H^+ in the Interstellar Medium. *C. Vastel, T. G. Phillips, & H. Yoshida.* 606, L127 (2004)
- Rate Coefficient for $H^+ + H_2(X^1\Sigma_g^+, \nu = 0, J = 0) \rightarrow H(1s) + H_2^+$ Charge Transfer and Some Cosmological Implications. *Daniel Wolf Savin, Predrag S. Krstić, Zoltán Haiman, & Phillip C. Stancil.* 606, L167 (2004)
- Photoionization of Benzene and Small Polycyclic Aromatic Hydrocarbons in Ultraviolet-processed Astrophysical Ices: A Computational Study. *David E. Woon & Jin-Young Park.* 607, 342 (2004)
- Dust in the Photospheric Environment. II. Effect on the Near-Infrared Spectra of L and T Dwarfs. *Takashi Tsuji, Tadashi Nakajima, & Kenshi Yamagisawa.* 607, 511 (2004)
- The Production of H I in Photodissociation Regions and a Comparison with CO (1–0) Emission. *Ronald J. Allen, Harold I. Heaton, & Michael J. Kaufman.* 608, 314 (2004)
- Ab Initio Direct Trajectory Simulation with Nonadiabatic Transitions of the Dissociative Recombination Reaction $HCNH^+ + e^- \rightarrow HNC/HCN + H$. *Tetsuya Taketsugu, Asami Tajima, Keisaku Ishii, & Tsuneo Hirano.* 608, 323 (2004)
- The Polymerization of Acetylene, Hydrogen Cyanide, and Carbon Chains in the Neutral Layers of C-rich Proto-planetary Nebulae. *José Cernicharo.* 608, L41 (2004)

MOON

- Chandra Observations of the "Dark" Moon and Geocoronal Solar Wind Charge Transfer. *B. J. Wargelin, M. Markevitch, M. Juda, V. Kharchenko, R. Edgar, & A. Dalgarno.* 607, 596 (2004)

NEUTRINOS

- Cosmic Star Formation History and the Future Observation of Supernova Relic Neutrinos. *Shin'ichiro Ando.* 607, 20 (2004)
- Magnetorotational Effects on Anisotropic Neutrino Emission and Convection in Core-Collapse Supernovae. *Kei Kotake, Hidetomo Sawai, Shoichi Yamada, & Katsuhiko Sato.* 608, 391 (2004)
- Neutrino Effects before, during, and after the Freezeout of the r -Process. *M. Terasawa, K. Langanke, T. Kajino, G. J. Mathews, & E. Kolbe.* 608, 470 (2004)
- Opaque or Transparent? A Link between Neutrino Optical Depths and the Characteristic Duration of Short Gamma-Ray Bursts. *William H. Lee, Enrico Ramirez-Ruiz, & Dany Page.* 608, L5 (2004)

NUCLEAR REACTIONS, NUCLEOSYNTHESIS, ABUNDANCES

- Boron Benchmarks for the Galactic Disk. *Ann Merchant Boesgaard, Elizabeth J. McGrath, David L. Lambert, & Katia Cunha.* 606, 306 (2004)
- Numerical Analyses of Isotopic Ratios of Presolar Grains from Supernovae. *Takashi Yoshida & Masa-aki Hashimoto.* 606, 592 (2004)
- Nucleosynthesis in Outflows from the Inner Regions of Collapsars. *Jason Puetter, Todd A. Thompson, & R. D. Hoffman.* 606, 1006 (2004)
- Direct Numerical Simulations of Type Ia Supernovae Flames. I. The Landau-Darrieus Instability. *J. B. Bell, M. S. Day, C. A. Rendleman, S. E. Woosley, & M. Zingale.* 606, 1029 (2004)
- The Linear Instability of Astrophysical Flames in Magnetic Fields. *L. J. Dursi.* 606, 1039 (2004)
- The r -Process in Supernovae: Impact of New Microscopic Mass Formulae. *Shinya Wanajo, Stephane Goriely, Mathieu Samyn, & Naoki Itoh.* 606, 1057 (2004)
- 0.8–13 Micron Spectroscopy of V838 Monocerotis and a Model for Its Emission. *David K. Lynch, Richard J. Rudy, Ray W. Russell, S. Mazuk, Catherine C. Venturini, W. Dimpfl, Lawrence S. Bernstein, Michael L. Sitko, Sergio Fajardo-Acosta, Alan Tokunaga, Roger Knacke, Richard C. Puetter, & R. Brad Perry.* 607, 460 (2004)
- Spectroscopic Studies of Extremely Metal-poor Stars with the Subaru High Dispersion Spectrograph. II. The r -Process Elements, Including Thorium. *Satoshi Honda, Wako Aoki, Toshitaka Kajino, Hiroyasu Ando, Timothy C. Beers, Hideyuki Izumiura, Kozo Sadakane, & Masahide Takada-Hidai.* 607, 474 (2004)
- Raising the Dead: Clues to Type Ia Supernova Physics from the Remnant 0509–67.5. *Jessica S. Warren & John P. Hughes.* 608, 261 (2004)
- Explosive Yields of Massive Stars from $Z = 0$ to $Z = Z_\odot$. *Alessandro Chieffi & Marco Limongi.* 608, 405 (2004)
- Neutrino Effects before, during, and after the Freezeout of the r -Process. *M. Terasawa, K. Langanke, T. Kajino, G. J. Mathews, & E. Kolbe.* 608, 470 (2004)
- The Nuclear Reaction Waiting Points: ^{22}Mg , ^{26}Si , ^{30}S , and ^{34}Ar and Bolometrically Double-peaked Type I X-Ray Bursts. *Jacob Lund Fisker, Friedrich-Karl Thielemann, & Michael Wiescher.* 608, L61 (2004)
- Direct Numerical Simulations of Type Ia Supernovae Flames. II. The Rayleigh-Taylor Instability. *J. B. Bell, M. S. Day, C. A. Rendleman, S. E. Woosley, & M. Zingale.* 608, 883 (2004)
- Oxygen Overabundance in the Extremely Iron-poor Star CS 29498–043. *Wako Aoki, John E. Norris, Sean G. Ryan, Timothy C. Beers, Norbert Christlieb, Stelios Tsangarides, & Hiroyasu Ando.* 608, 971 (2004)
- An Insight into the Reaction Rates of the Ne-Na and Mg-Al Chains from the Abundance Anomalies in Globular Cluster Red Giants. *Masayuki Aikawa, Masayuki Y. Fujimoto, & Kiyoshi Kato.* 608, 983 (2004)

PLANETS AND SATELLITES: GENERAL

- Effects of Helium Phase Separation on the Evolution of Extrasolar Giant Planets. *Jonathan J. Fortney & W. B. Hubbard.* 608, 1039 (2004)
- The Internal Structural Adjustment due to Tidal Heating of Short-Period Inflated Giant Planets. *Pin-Gao Gu, Peter H. Bodenheimer, & Douglas N. C. Lin.* 608, 1076 (2004)

PLANETS AND SATELLITES: FORMATION

- On the Importance of Gas Flow through Porous Bodies for the Formation of Planetesimals. *Gerhard Wurm, Georgi Paraskov, & Oliver Krauss.* 606, 983 (2004)
- Type I Planetary Migration with Magnetohydrodynamic Turbulence. *Gregory Laughlin, Adriane Steinacker, & Fred C. Adams.* 608, 489 (2004)

PLANETS AND SATELLITES: INDIVIDUAL

Jupiter

Effects of Helium Phase Separation on the Evolution of Extrasolar Giant Planets. *Jonathan J. Fortney & W. B. Hubbard*. 608, 1039 (2004)

Saturn

Effects of Helium Phase Separation on the Evolution of Extrasolar Giant Planets. *Jonathan J. Fortney & W. B. Hubbard*. 608, 1039 (2004)

Titan

An X-Ray Measurement of Titan's Atmospheric Extent from Its Transit of the Crab Nebula. *Koji Mori, Hiroshi Tsunemi, Haruyoshi Katayama, David N. Burrows, Gordon P. Garmire, & Albert E. Metzger*. 607, 1065 (2004)

PLASMAS

Magnetic Sunyaev-Zel'dovich Effect in Galaxy Clusters. *Jian Hu & Yu-Qing Lou*. 606, L1 (2004)

Relativistic Outflow Magnetically Driven by Black Hole Rotation. *Shinji Koide*. 606, L45 (2004)

Magnetohydrodynamic Simulations of the Formation of Cold Fronts in Clusters of Galaxies Including Heat Conduction. *N. Asai, N. Fukuda, & R. Matsumoto*. 606, L105 (2004)

Atomic Data and Spectral Line Intensities for Ca VIII. *E. Landi, P. J. Storey, & C. J. Zeppen*. 607, 640 (2004)

Magnetic Field Generation in Collisionless Shocks: Pattern Growth and Transport. *J. Trier Frederiksen, C. B. Hededal, T. Haugbolle, & Å. Nordlund*. 608, L13 (2004)

Models for Solar Magnetic Loops. III. Dynamic Models and Coronal Diagnostic Spectrometer Observations. *E. Landi & M. Landini*. 608, 1133 (2004)

POLARIZATION

Relativistic Effects and Polarization in Three High-Energy Pulsar Models. *J. Dyks, Alice K. Harding, & B. Rudak*. 606, 1125 (2004)

On the Excess Dispersion in the Polarization Position Angle of Pulsar Radio Emission. *Mark M. McKinnon*. 606, 1154 (2004)

Effect of Quasi-Orthogonal Emission Modes on the Rotation Measures of Pulsars. *R. Ramachandran, D. C. Backer, Joanna M. Rankin, J. M. Weisberg, & K. E. Devine*. 606, 1167 (2004)

H I Absorption of Polarized Emission: A New Technique for Determining Kinematic Distances to Galactic Supernova Remnants. *R. Kothes, T. L. Landecker, & M. Wolleben*. 607, 855 (2004)

RADIATION MECHANISMS: GENERAL

Magnetic Sunyaev-Zel'dovich Effect in Galaxy Clusters. *Jian Hu & Yu-Qing Lou*. 606, L1 (2004)

Discovery of Blue Luminescence in the Red Rectangle: Possible Fluorescence from Neutral Polycyclic Aromatic Hydrocarbon Molecules? *Uma P. Vijh, Adolf N. Witt, & Karl D. Gordon*. 606, L65 (2004)

RADIATION MECHANISMS: NONTHERMAL

Testing the Predictions of the Universal Structured Gamma-Ray Burst Jet Model. *Ehud Nakar, Jonathan Granot, & Dafne Guetta*. 606, L37 (2004)

The Inner Annular Gap for Pulsar Radiation: γ -Ray and Radio Emission. *G. J. Qiao, K. J. Lee, H. G. Wang, R. X. Xu, & J. L. Han*. 606, L49 (2004)

Spectral Analysis of Rossi X-Ray Timing Explorer Observations of A3667. *Yoel Rephaeli & Duane Gruber*. 606, 825 (2004)

On the Nature of the Variable Infrared Emission from Sagittarius A*. *Feng Yuan, Eliot Quataert, & Ramesh Narayan*. 606, 894 (2004)

Relativistic Effects and Polarization in Three High-Energy Pulsar Models. *J. Dyks, Alice K. Harding, & B. Rudak*. 606, 1125 (2004)

High-Altitude Particle Acceleration and Radiation in Pulsar Slot Gaps. *Alex G. Muslimov & Alice K. Harding*. 606, 1143 (2004)

Effect of Quasi-Orthogonal Emission Modes on the Rotation Measures of Pulsars. *R. Ramachandran, D. C. Backer, Joanna M. Rankin, J. M. Weisberg, & K. E. Devine*. 606, 1167 (2004)

The Quest for Microwave Foreground X. *Angélica de Oliveira-Costa, Max Tegmark, R. D. Davies, Carlos M. Gutiérrez, A. N. Lasenby, R. Rebolo, & R. A. Watson*. 606, L89 (2004)

On the Methods of Determining the Radio Emission Geometry in Pulsar Magnetospheres. *J. Dyks, B. Rudak, & Alice K. Harding*. 607, 939 (2004)

On Multiwavelength Emission of Large-Scale Quasar Jets. *Lukasz Stawarz, Marek Sikora, Michał Ostrowski, & Mitchell C. Begelman*. 608, 95 (2004)

Prompt Ultraviolet-to-Soft X-Ray Emission of Gamma-Ray Bursts: Application to GRB 031203? *Zhuo Li & L. M. Song*. 608, L17 (2004)

RADIATION MECHANISMS: THERMAL

The Quest for Microwave Foreground X. *Angélica de Oliveira-Costa, Max Tegmark, R. D. Davies, Carlos M. Gutiérrez, A. N. Lasenby, R. Rebolo, & R. A. Watson*. 606, L89 (2004)

RADIATIVE TRANSFER

Reprocessing of Soft X-Ray Emission Lines in Black Hole Accretion Disks. *Christopher W. Mauche, Duane A. Liedahl, Benjamin F. Mathiesen, Mario A. Jimenez-Garate, & John C. Raymond*. 606, 168 (2004)

X-Ray Scattering Halos from the Galactic Center: Implications for Diffuse Emission around Sagittarius A*. *Jonathan C. Tan & B. T. Draine*. 606, 296 (2004)

Non-LTE Curves of Growth of X-Ray Absorption Lines. *Kuniaki Masai & Manabu Ishida*. 607, 76 (2004)

Radiative Transfer in the Refractive Atmospheres of Very Cool White Dwarfs. *P. M. Kowalski & D. Saumon*. 607, 970 (2004)

RADIO CONTINUUM: GALAXIES

The Radio Continuum of the Metal-deficient Blue Compact Dwarf Galaxy SBS 0335-052. *Leslie K. Hunt, Kristy K. Dyer, Trinh X. Thuan, & James S. Ulvestad*. 606, 853 (2004)

Structure of OJ 287 from Geodetic Very Long Baseline Array Data. *Claudio E. Tateyama & Kerry A. Kingham*. 608, 149 (2004)

RADIO CONTINUUM: ISM

New Nonthermal Filaments at the Galactic Center: Are They Tracing a Globally Ordered Magnetic Field? *T. N. LaRosa, Michael E. Nord, T. Joseph, W. Lazio, & Namir E. Kassim*. 607, 302 (2004)

RADIO CONTINUUM: STARS

Effect of Quasi-Orthogonal Emission Modes on the Rotation Measures of Pulsars. *R. Ramachandran, D. C. Backer, Joanna M. Rankin, J. M. Weisberg, & K. E. Devine*. 606, 1167 (2004)

RADIO LINES: GALAXIES

The Star Formation Rate and Dense Molecular Gas in Galaxies. *Yu Gao & Philip M. Solomon*. 606, 271 (2004)

The Faintness of the 158 Micron [C II] Transition in the $z = 6.42$ Quasar SDSS J1148+5251. *Alberto D. Bolatto, James Di Francesco, & Chris J. Willott*. 606, L101 (2004)

The Impact of Distance Uncertainties on Local Luminosity and Mass Functions. *Karen L. Masters, Martha P. Haynes, & Riccardo Giovanelli*. 607, L115 (2004)

RADIO LINES: GENERAL

Redshifted 21 Centimeter Emission from the Pre-reionization Era. I. Mean Signal and Linear Fluctuations. *Nickolay Y. Gnedin & Peter A. Shaver*. 608, 611 (2004)

RADIO LINES: ISM

N_2H^+ Observations of Molecular Cloud Cores in Taurus. *Ken'ichi Tatematsu, Tomofumi Umemoto, Ryo Kandori, & Yutaro Sekimoto*. 606, 333 (2004)

High-Resolution Observations of Methyl Cyanide (CH_3CN) toward the Hot Core Regions W51 e1/e2. *A. Remijan, E. C. Sutton, L. E. Snyder, D. N. Friedel, S.-Y. Liu, & C.-C. Pei*. 606, 917 (2004)

The Case for Local Collapse in the W51 Star-forming Region. *Peter K. Sollins, Qizhou Zhang, & Paul T. P. Ho*. 606, 943 (2004)

Detection of D_2H^+ in the Interstellar Medium. *C. Vastel, T. G. Phillips, & H. Yoshida*. 606, L127 (2004)

H I Absorption of Polarized Emission: A New Technique for Determining Kinematic Distances to Galactic Supernova Remnants. *R. Kothes, T. L. Landecker, & M. Wolleben*. 607, 855 (2004)

A Distant Extended Spiral Arm in the Fourth Quadrant of the Milky Way. *N. M. McClure-Griffiths, John M. Dickey, B. M. Gaensler, & A. J. Green*. 607, L127 (2004)

Detection of Vibrationally Excited Ethyl Cyanide in the Interstellar Medium. *David M. Mehringer, J. C. Pearson, Jocelyn Keene, & T. G. Phillips*. 608, 306 (2004)

RELATIVITY

Relativistic Outflow Magnetically Driven by Black Hole Rotation. *Shinji Koide*. 606, L45 (2004)

Propagation and Dynamics of Relativistic Jets. *Akira Mizuta, Shoichi Yamada, & Hideaki Takabe*. 606, 804 (2004)

Relativistic Wind Bubbles and Afterglow Signatures. *Z. G. Dai*. 606, 1000 (2004)

Evidence of Black Hole Spin in GX 339-4: *XMM-Newton*/EPIC-pn and *RXTE* Spectroscopy of the Very High State. *J. M. Miller, A. C. Fabian, C. S. Reynolds, M. A. Nowak, J. Homan, M. J. Freyberg, M. Ehle,*

- T. Belloni, R. Wijnands, M. van der Klis, P. A. Charles, & W. H. G. Lewin. 606, L131 (2004)
- A General Relativistic Model of Light Propagation in the Gravitational Field of the Solar System: The Static Case. F. de Felice, M. T. Crosta, A. Vecchiato, M. G. Lattanzi, & B. Bucciarelli. 607, 580 (2004)
- Revealing a Cool Accretion Disk in the Ultraluminous X-Ray Source M81 X-9 (Holmberg IX X-1): Evidence for an Intermediate-Mass Black Hole. J. M. Miller, A. C. Fabian, & M. C. Miller. 607, 931 (2004)
- The Propagation and Eruption of Relativistic Jets from the Stellar Progenitors of Gamma-Ray Bursts. Weiqun Zhang, S. E. Woosley, & A. Heger. 608, 365 (2004)
- Prompt Ultraviolet-to-Soft X-Ray Emission of Gamma-Ray Bursts: Application to GRB 031203? Zhuo Li & L. M. Song. 608, L17 (2004)
- Nonlinear Electrodynamics and the Surface Redshift of Pulsars. Herman J. Mosquera Cuesta & José M. Salim. 608, 925 (2004)
- ### SCATTERING
- X-Ray Scattering Halos from the Galactic Center: Implications for Diffuse Emission around Sagittarius A*. Jonathan C. Tan & B. T. Draine. 606, 296 (2004)
- A Multiwavelength Scattered Light Analysis of the Dust Grain Population in the GG Tauri Circumbinary Ring. G. Duchêne, C. McCabe, A. M. Ghez, & B. A. Macintosh. 606, 969 (2004)
- On the Importance of Local-Field Corrections for Polarizable Particles on a Finite Lattice: Application to the Discrete Dipole Approximation. Adel Rahmani, Patrick C. Chaumet, & Garnett W. Bryant. 607, 873 (2004)
- ### SHOCK WAVES
- Abundances of Heavy and Ultraheavy Ions in ^3He -rich Solar Flares. G. M. Mason, J. E. Mazur, J. R. Dwyer, J. R. Jokipii, R. E. Gold, & S. M. Krimigis. 606, 555 (2004)
- Propagation and Dynamics of Relativistic Jets. Akira Mizuta, Shoichi Yamada, & Hideaki Takabe. 606, 804 (2004)
- Far Ultraviolet Spectroscopic Explorer Observations of Highly Ionized Gas in the Vela Supernova Remnant. Jonathan D. Slavin, Joy S. Nichols, & William P. Blair. 606, 900 (2004)
- Relativistic Wind Bubbles and Afterglow Signatures. Z. G. Dai. 606, 1000 (2004)
- Filament Oscillations and Moreton Waves Associated with EIT Waves. Takenori J. Okamoto, Hidekazu Nakai, Atsushi Keiyama, Noriyuki Narukage, Satoru Ueno, Reizaburo Kitai, Hiroki Kurokawa, & Kazunari Shibata. 608, 1124 (2004)
- ### SOLAR SYSTEM: FORMATION
- Chondrule Formation and Protoplanetary Disk Heating by Current Sheets in Nonideal Magnetohydrodynamic Turbulence. M. K. Ryan Joung, Mordecai-Mark Mac Low, & Denton S. Ebel. 606, 532 (2004)
- Numerical Analyses of Isotopic Ratios of Presolar Grains from Supernovae. Takashi Yoshida & Masa-aki Hashimoto. 606, 592 (2004)
- On the Importance of Gas Flow through Porous Bodies for the Formation of Planetesimals. Gerhard Wurm, Georgi Paraskov, & Oliver Krauss. 606, 983 (2004)
- ### SOLAR SYSTEM: GENERAL
- Catching Some Sun: Probing the Solar Wind with Cometary X-Ray and Far-Ultraviolet Emission. D. Bodewits, Z. Juhász, R. Hoekstra, & A. G. G. M. Tielens. 606, L81 (2004)
- ### STARS: ABUNDANCES
- Boron Benchmarks for the Galactic Disk. Ann Merchant Boesgaard, Elizabeth J. McGrath, David L. Lambert, & Katia Cunha. 606, 306 (2004)
- Chemical Abundances for a Sample of Southern OB Stars. II. The Outer Disk. Simone Daflon, Katia Cunha, & Keith Butler. 606, 514 (2004)
- The r-Process in Supernovae: Impact of New Microscopic Mass Formulae. Shinya Wanajo, Stephane Goriely, Mathieu Samyn, & Naoki Itoh. 606, 1057 (2004)
- Spectroscopic Studies of Extremely Metal-poor Stars with the Subaru High Dispersion Spectrograph. II. The r-Process Elements, Including Thorium. Satoshi Honda, Wako Aoki, Toshitaka Kajino, Hiroyasu Ando, Timothy C. Beers, Hideyuki Izumiura, Kozo Sadakane, & Masahide Takada-Hidai. 607, 474 (2004)
- Oxygen Overabundance in the Extremely Iron-poor Star CS 29498-043. Wako Aoki, John E. Norris, Sean G. Ryan, Timothy C. Beers, Norbert Christlieb, Stelios Tsangarides, & Hiroyasu Ando. 608, 971 (2004)
- An Insight into the Reaction Rates of the Ne-Na and Mg-Al Chains from the Abundance Anomalies in Globular Cluster Red Giants. Masayuki Aikawa, Masayuki Y. Fujimoto, & Kiyoshi Kato. 608, 983 (2004)
- A CNO Dichotomy among O2 Giant Spectra in the Magellanic Clouds. Nolan R. Walborn, Nidia I. Morrell, Ian D. Howarth, Paul A. Crowther, Daniel J. Lennon, Philip Massey, & Julia I. Arias. 608, 1028 (2004)
- ### STARS: ACTIVITY
- Doppler Shifts and Broadening and the Structure of the X-Ray Emission from Algol. Sun Mi Chung, Jeremy J. Drake, Vinay L. Kashyap, Li Wei Lin, & Peter W. Ratzlaff. 606, 1184 (2004)
- Chandra Observation of the Trifid Nebula: X-Ray Emission from the O Star Complex and Actively Forming Pre-Main-Sequence Stars. Jeonghee Rho, Solange V. Ramirez, Michael F. Corcoran, Kenji Hamaguchi, & Bertrand Lefloch. 607, 904 (2004)
- A Chandra Observation of a TW Hydrae Association Brown Dwarf. John E. Gizis & Ravi Bharat. 608, L113 (2004)
- ### STARS: AGB AND POST-AGB
- Magnetohydrodynamic Models of the Bipolar Knotty Jet in Henize 2-90. Chin-Fei Lee & Raghendra Sahai. 606, 483 (2004)
- Astrophysical Significance of Asymptotic Giant Branch Stellar Wind Energies Recorded in Meteoritic SiC Grains. A. B. Verchovsky, I. P. Wright, & C. T. Pillinger. 607, 611 (2004)
- Photometric Variability among the Brightest Asymptotic Giant Branch Stars near the Center of M32. T. J. Davidge & F. Rigaut. 607, L25 (2004)
- Precise Rest Frequencies for AlI and AlII ($X^1\Sigma^+$): A Reassessment of the Aluminum Hyperfine Structure. D. T. Halfen & L. M. Ziurys. 607, L63 (2004)
- Ground-State SiO Maser Emission toward Evolved Stars. D. A. Boboltz & M. J. Claussen. 608, 480 (2004)
- The Polymerization of Acetylene, Hydrogen Cyanide, and Carbon Chains in the Neutral Layers of C-rich Proto-planetary Nebulae. José Cernicharo. 608, L41 (2004)
- Constraining the X-Ray Luminosities of Asymptotic Giant Branch Stars: TX Camelopardalis and T Cassiopeia. Joel H. Kastner & Noam Soker. 608, 978 (2004)
- ### STARS: ATMOSPHERES
- Spectral Features in the Thermal Emission from Isolated Neutron Stars: Dependence on Magnetic Field Strengths. Wynn C. G. Ho & Dong Lai. 607, 420 (2004)
- Dust in the Photospheric Environment. II. Effect on the Near-Infrared Spectra of L and T Dwarfs. Takashi Tsuji, Tadashi Nakajima, & Kenshi Yanagisawa. 607, 511 (2004)
- Radiative Transfer in the Refractive Atmospheres of Very Cool White Dwarfs. P. M. Kowalski & D. Saumon. 607, 970 (2004)
- The Physical Properties and Effective Temperature Scale of O-Type Stars as a Function of Metallicity. I. A Sample of 20 Stars in the Magellanic Clouds. Philip Massey, Fabio Bresolin, Rolf P. Kudritzki, Joachim Puls, & A. W. A. Pauldrach. 608, 1001 (2004)
- ### STARS: BINARIES: CLOSE
- An Explanation for Metallicity Effects on X-Ray Binary Properties. Thomas J. Maccarone, Arunav Kundu, & Stephen E. Zepf. 606, 430 (2004)
- Accretion onto Fast X-Ray Pulsars. S. A. Rappaport, J. M. Fregeau, & H. Spruit. 606, 436 (2004)
- Fine-Tuning the Accretion Disk Clock in Hercules X-1. M. Still & P. Boyd. 606, L135 (2004)
- Detection of Two-armed Spiral Shocks on the Accretion Disk of the Eclipsing Fast Nova V1494 Aquilae. Izumi Hachisu, Mariko Kato, & Taichi Kato. 606, L139 (2004)
- Non-LTE Curves of Growth of X-Ray Absorption Lines. Kuniaki Masai & Manabu Ishida. 607, 76 (2004)
- The Rates of Hypernovae and Gamma-Ray Bursts: Implications for Their Progenitors. Ph. Podsiadlowski, P. A. Mazzali, K. Nomoto, D. Lazzati, & E. Cappellaro. 607, L17 (2004)
- A Search for TeV Gamma-Ray Emission from the PSR B1259-63/SS 2883 Binary System with the Cangaroo-II 10 m Telescope. A. Kawachi, T. Naito, J. R. Patterson, P. G. Edwards, A. Asahara, G. V. Bicknell, R. W. Clay, R. Enomoto, S. Gunji, S. Hara, T. Hara, T. Hattori, Seiichi Hayashi, Shin'ichiro Hayashi, C. Itoh, S. Kabuki, F. Kajino, H. Katagiri, T. Kifune, L. Ksenofontov, H. Kubo, J. Kushida, Y. Matsubara, Y. Mizumoto, M. Mori, H. Moro, H. Muraishi, Y. Muraki, T. Nakase, D. Nishida, K. Nishijima, M. Ohishi, K. Okumura, R. J. Protheroe, K. Sakurazawa, D. L. Swaby, T. Tanimori, F. Tokanai, K. Tsuchiya, H. Tsumoo, T. Uchida,

- A. Watanabe, S. Watanabe, S. Yanagita, T. Yoshida, & T. Yoshikoshi. 607, 949 (2004)
- The First Stellar Binary Black Holes: The Strongest Gravitational Wave Burst Sources. *Krzysztof Belczynski, Tomasz Bulik, & Bronislaw Rudak.* 608, L45 (2004)
- The FU Orionis Binary System and the Formation of Close Binaries. *Bo Reipurth & Colin Aspin.* 608, L65 (2004)
- The Discovery of Optical Bursts from MS 1603.6+2600 (UW Coronae Borealis). *R. I. Hynes, E. L. Robinson, & E. Jeffery.* 608, L101 (2004)
- Seismology of the Accreting White Dwarf in GW Librae. *Dean M. Townsley, Phil Arras, & Lars Bildsten.* 608, L105 (2004)
- STARS: BINARIES: ECLIPSING**
- Detection of Two-armed Spiral Shocks on the Accretion Disk of the Eclipsing Fast Nova V1494 Aquilae. *Izumi Hachisu, Mariko Kato, & Taichi Kato.* 606, L139 (2004)
- Mass and Angular Momentum Transfer in the Massive Algol Binary RY Persei. *P. Barai, D. R. Gies, E. Choi, V. Das, R. Deo, W. Huang, K. Marshall, M. V. McSwain, C. Ogden, M. A. Osterman, R. L. Riddle, J. L. Seymour, Jr., D. W. Wingert, A. B. Kaye, & G. J. Peters.* 608, 989 (2004)
- The Discovery of Optical Bursts from MS 1603.6+2600 (UW Coronae Borealis). *R. I. Hynes, E. L. Robinson, & E. Jeffery.* 608, L101 (2004)
- STARS: BINARIES: GENERAL**
- Giant Metrewave Radio Telescope Discovery of a Millisecond Pulsar in a Very Eccentric Binary System. *Paulo C. Freire, Yashwant Gupta, Scott M. Ransom, & C. H. Ishwara-Chandra.* 606, L53 (2004)
- Doppler Shifts and Broadening and the Structure of the X-Ray Emission from Algol. *Sun Mi Chung, Jeremy J. Drake, Vinay L. Kashyap, Li Wei Lin, & Peter W. Rutzcliff.* 606, 1184 (2004)
- Detection of Nitrogen and Neon in the X-Ray Spectrum of GP Comae Berenices with XMM/Newton. *Tod E. Strohmayer.* 608, L53 (2004)
- Mid-Infrared Observations of Van Maanen 2: No Substellar Companion. *J. Farihi, E. E. Becklin, & B. A. Macintosh.* 608, L109 (2004)
- STARS: BINARIES: SPECTROSCOPIC**
- Mass and Angular Momentum Transfer in the Massive Algol Binary RY Persei. *P. Barai, D. R. Gies, E. Choi, V. Das, R. Deo, W. Huang, K. Marshall, M. V. McSwain, C. Ogden, M. A. Osterman, R. L. Riddle, J. L. Seymour, Jr., D. W. Wingert, A. B. Kaye, & G. J. Peters.* 608, 989 (2004)
- STARS: BINARIES: VISUAL**
- The FU Orionis Binary System and the Formation of Close Binaries. *Bo Reipurth & Colin Aspin.* 608, L65 (2004)
- STARS: BLUE STRAGGLERS**
- First Evidence of Circumstellar Disks around Blue Straggler Stars. *Orsola De Marco, Thierry Lant, John A. Ouellette, David Zurek, & Michael M. Shara.* 606, L151 (2004)
- STARS: CARBON**
- Oxygen Overabundance in the Extremely Iron-poor Star CS 29498-043. *Wako Aoki, John E. Norris, Sean G. Ryan, Timothy C. Beers, Norbert Christlieb, Stelios Tsangarides, & Hiroyasu Ando.* 608, 971 (2004)
- STARS: CIRCUMSTELLAR MATTER**
- Evidence of Planetsimal Infall onto the Very Young Herbig Be Star LkH α 234. *Abhijit Chakraborty, Jian Ge, & Suvrat Mahadevan.* 606, L69 (2004)
- A Multiwavelength Scattered Light Analysis of the Dust Grain Population in the GG Tauri Circumbinary Ring. *G. Duchêne, C. McCabe, A. M. Ghez, & B. A. Macintosh.* 606, 969 (2004)
- The Global Baroclinic Instability in Accretion Disks. II. Local Linear Analysis. *Hubert Klahr.* 606, 1070 (2004)
- Discovery of an O vi-emitting Nebula around the Hot White Dwarf KPD 0005+5106. *Birgit Otte, W. Van Dyke Dixon, & Ravi Sankrit.* 606, L143 (2004)
- The Far-Ultraviolet Spectra of TW Hydrae. II. Models of H $_2$ Fluorescence in a Disk. *Gregory J. Herczeg, Brian E. Wood, Jeffrey L. Linsky, Jeff A. Valenti, & Christopher M. Johns-Krull.* 607, 369 (2004)
- SN 2003du: Signatures of the Circumstellar Environment in a Normal Type Ia Supernova? *Christopher L. Gerardy, Peter Höflich, Robert A. Fesen, G. H. Marion, Ken'ichi Nomoto, Robert Quimby, Bradley E. Schaefer, Lifan Wang, & J. Craig Wheeler.* 607, 391 (2004)
- The Circumbinary Ring of KH 15D. *Eugene I. Chiang & Ruth A. Murray-Clay.* 607, 913 (2004)
- The Effects of Dust on Compact and Ultracompact H II Regions. *S. Jane Arthur, Stanley E. Kurtz, José Franco, & Marna Y. Albarrán.* 608, 282 (2004)
- Ground-State SiO Maser Emission toward Evolved Stars. *D. A. Boboltz & M. J. Claussen.* 608, 480 (2004)
- A Submillimeter Search of Nearby Young Stars for Cold Dust: Discovery of Debris Disks around Two Low-Mass Stars. *Michael C. Liu, Brenda C. Matthews, Jonathan P. Williams, & Paul G. Kalas.* 608, 526 (2004)
- The FU Orionis Binary System and the Formation of Close Binaries. *Bo Reipurth & Colin Aspin.* 608, L65 (2004)
- The Environment of the Optically Brightest Herbig Ae Star, HD 104237. *C. A. Grady, B. Woodgate, Carlos A. O. Torres, T. Henning, D. Apai, J. Rodmann, Hongchi Wang, B. Stecklum, H. Linz, G. M. Williger, A. Brown, E. Wilkinson, G. M. Harper, G. J. Herczeg, A. Danks, G. L. Vieira, E. Malumuth, N. R. Collins, & R. S. Hill.* 608, 809 (2004)
- Using Notch-Filter Masks for High-Contrast Imaging of Extrasolar Planets. *John H. Debes, Jian Ge, Marc J. Kuchner, & Michael Rogosky.* 608, 1095 (2004)
- STARS: CORONAE**
- Coronal Variability in the Young Cluster NGC 2516. *S. J. Wolk, F. R. Harnden, Jr., S. S. Murray, N. R. Adams, F. Damiani, E. Flaccomio, G. Micela, S. Sciortino, & R. D. Jeffries.* 606, 466 (2004)
- The O vi and C III Lines at 1032 and 977 Å in Hyades F Stars. *Erika Böhm-Vitense, Richard D. Robinson, & Kenneth G. Carpenter.* 606, 1174 (2004)
- A Deep Chandra X-Ray Observation of the Rich Young Cluster NGC 6530. I. The X-Ray Source Catalog and the Cluster Population. *F. Damiani, E. Flaccomio, G. Micela, S. Sciortino, F. R. Harnden, Jr., & S. S. Murray.* 608, 781 (2004)
- Positional Uncertainties and Detection Limits of ROSAT X-Ray Sources. *Thomas R. Ayres.* 608, 957 (2004)
- STARS: DWARF NOVAE**
- Seismology of the Accreting White Dwarf in GW Librae. *Dean M. Townsley, Phil Arras, & Lars Bildsten.* 608, L105 (2004)
- STARS: EARLY-TYPE**
- The Effective Temperatures of Hot Stars. II. The Early-O Types. *Miriam Garcia & Luciana Bianchi.* 606, 497 (2004)
- Chemical Abundances for a Sample of Southern OB Stars. II. The Outer Disk. *Simone Daflon, Katia Cunha, & Keith Butler.* 606, 514 (2004)
- Terminal Velocities of Luminous, Early-Type Small Magellanic Cloud Stars. *C. J. Evans, D. J. Lennon, C. Trundle, S. R. Heap, & D. J. Lindler.* 607, 451 (2004)
- Mass and Angular Momentum Transfer in the Massive Algol Binary RY Persei. *P. Barai, D. R. Gies, E. Choi, V. Das, R. Deo, W. Huang, K. Marshall, M. V. McSwain, C. Ogden, M. A. Osterman, R. L. Riddle, J. L. Seymour, Jr., D. W. Wingert, A. B. Kaye, & G. J. Peters.* 608, 989 (2004)
- The Physical Properties and Effective Temperature Scale of O-Type Stars as a Function of Metallicity. I. A Sample of 20 Stars in the Magellanic Clouds. *Philip Massey, Fabio Bresolin, Rolf P. Kudritzki, Joachim Puls, & A. W. A. Pauldrach.* 608, 1001 (2004)
- A CNO Dichotomy among O2 Giant Spectra in the Magellanic Clouds. *Nolan R. Walborn, Nidia I. Morrell, Ian D. Howarth, Paul A. Crowther, Daniel J. Lennon, Philip Massey, & Julia I. Arias.* 608, 1028 (2004)
- STARS: EMISSION-LINE, BE**
- Models for the Rapidly Rotating Be Star Achernar. *Stephen Jackson, Keith B. MacGregor, & Andrew Skumanich.* 606, 1196 (2004)
- STARS: EVOLUTION**
- Models for Solar Abundance Stars with Gravitational Settling and Radiative Accelerations: Application to M67 and NGC 188. *G. Michaud, O. Richard, J. Richer, & Don A. Vandenberg.* 606, 452 (2004)
- SN 2003du: Signatures of the Circumstellar Environment in a Normal Type Ia Supernova? *Christopher L. Gerardy, Peter Höflich, Robert A. Fesen, G. H. Marion, Ken'ichi Nomoto, Robert Quimby, Bradley E. Schaefer, Lifan Wang, & J. Craig Wheeler.* 607, 391 (2004)
- The Luminosity Function and Color-Magnitude Diagram of the Globular Cluster M12. *Jonathan R. Hargis, Eric L. Sandquist, & Michael Bolte.* 608, 243 (2004)
- Explosive Yields of Massive Stars from $Z = 0$ to $Z = Z_{\odot}$. *Alessandro Chieffi & Marco Limongi.* 608, 405 (2004)
- The Identification of Blue Horizontal-Branch Stars in the Integrated Spectra of Globular Clusters. *Ricardo P. Schiavon, James A. Rose, Stéphane Courteau, & Lauren A. MacArthur.* 608, L33 (2004)

- Numerical Study on the Rotational Collapse of Strongly Magnetized Cores of Massive Stars. *Shoichi Yamada & Hidetomo Sawai*. 608, 907 (2004)
- The Effects of Rotation on Thermal X-Ray Afterglows Resulting from Pulsar Glitches. *C. Y. Hui & K. S. Cheng*. 608, 935 (2004)
- An Insight into the Reaction Rates of the Ne-Na and Mg-Al Chains from the Abundance Anomalies in Globular Cluster Red Giants. *Masayuki Aikawa, Masayuki Y. Fujimoto, & Kiyoshi Kato*. 608, 983 (2004)
- Mass and Angular Momentum Transfer in the Massive Algol Binary RY Persei. *P. Barai, D. R. Gies, E. Choi, V. Das, R. Deo, W. Huang, K. Marshall, M. V. McSwain, C. Ogden, M. A. Osterman, R. L. Riddle, J. L. Seymour, Jr., D. W. Wingert, A. B. Kaye, & G. J. Peters*. 608, 989 (2004)
- A CNO Dichotomy among O2 Giant Spectra in the Magellanic Clouds. *Nolan R. Walborn, Nidia I. Morrell, Ian D. Howarth, Paul A. Crowther, Daniel J. Lennon, Philip Massey, & Julia I. Arias*. 608, 1028 (2004)
- STARS: FORMATION**
- N_2H^+ Observations of Molecular Cloud Cores in Taurus. *Ken'ichi Tatematsu, Tomofumi Umemoto, Ryo Kandori, & Yutaro Sekimoto*. 606, 333 (2004)
- The Irradiated Herbig-Haro Jets near σ Orionis. *Sean M. Andrews, Bo Reipurth, John Bally, & Steve R. Heathcote*. 606, 353 (2004)
- Evidence of Planetesimal Infall onto the Very Young Herbig Be Star LkH α 234. *Abhijit Chakraborty, Jian Ge, & Suvrath Mahadevan*. 606, L69 (2004)
- High-Resolution 4.7 Micron Keck/NIRSPEC Spectroscopy of the CO Emission from the Disks Surrounding Herbig Ae Stars. *Geoffrey A. Blake & A. C. A. Boogert*. 606, L73 (2004)
- High-Resolution Observations of Methyl Cyanide (CH_3CN) toward the Hot Core Regions W51 e1/e2. *A. Remijan, E. C. Sutton, L. E. Snyder, D. N. Friedel, S.-Y. Liu, & C.-C. Pei*. 606, 917 (2004)
- IRAS 18317–0757: A Cluster of Embedded Massive Stars and Protostars. *T. R. Hunter, Q. Zhang, & T. K. Sridharan*. 606, 929 (2004)
- The Case for Local Collapse in the W51 Star-forming Region. *Peter K. Sollins, Qizhou Zhang, & Paul T. P. Ho*. 606, 943 (2004)
- Hubble Space Telescope WFC2 Study of the Trapezium Cluster: The Influence of Circumstellar Disks on the Initial Mass Function. *M. Robberto, J. Song, G. Mora Carrillo, S. V. W. Beckwith, R. B. Makidon, & N. Panagia*. 606, 952 (2004)
- IRAS 05436–0007 and the Emergence of McNeil's Nebula. *Bo Reipurth & Colin Aspin*. 606, L119 (2004)
- McNeil's Nebula in Orion: The Outburst History. *C. Briceño, A. K. Vivas, J. Hernández, N. Calvet, L. Hartmann, T. Megeath, P. Berlind, M. Calkins, & S. Hoyer*. 606, L123 (2004)
- Rate Coefficient for $H^+ + H_2(X^1\Sigma_g^+, v = 0, J = 0) \rightarrow H(1s) + H_2^+$ Charge Transfer and Some Cosmological Implications. *Daniel Wolf Savin, Predrag S. Krstić, Zoltán Haiman, & Phillip C. Stancil*. 606, L167 (2004)
- Using VLBI to Probe the Orion KL Outflow on AU Scales. *Shepherd S. Doeleman, Colin J. Lonsdale, Paul T. Kondratko, & C. Read Predmore*. 607, 361 (2004)
- Formation and Collapse of Nonaxisymmetric Protostellar Cores in Planar Magnetic Molecular Clouds. *Shantanu Basu & Glenn E. Ciolek*. 607, L39 (2004)
- Does Disk Locking Solve the Stellar Angular Momentum Problem? *Sean Matt & Ralph E. Pudritz*. 607, L43 (2004)
- The Becklin-Neugebauer Object as a Runaway B Star, Ejected 4000 Years Ago from the θ^1 Orionis C System. *Jonathan C. Tan*. 607, L47 (2004)
- Detection of H_2D^+ : Measuring the Midplane Degree of Ionization in the Disks of DM Tauri and TW Hydrae. *C. Ceccarelli, C. Dominik, B. Lefloch, P. Caselli, & E. Caux*. 607, L51 (2004)
- Self-Similar Gravitational Collapse of Radiatively Cooling Spheres. *Masakatsu Murakami, Katsunobu Nishihara, & Tomoyuki Hanawa*. 607, 879 (2004)
- Photoevaporation of Circumstellar Disks around Young Stars. *Andreea S. Font, Ian G. McCarthy, Doug Johnstone, & David R. Ballantyne*. 607, 890 (2004)
- Supermassive Stars in Quasar Disks. *J. Goodman & Jonathan C. Tan*. 608, 108 (2004)
- The Formation of Dust Lanes: Implications for Galaxy Evolution. *Julianne J. Dalcanton, Peter Yochim, & Rebecca A. Bernstein*. 608, 189 (2004)
- Low-Mass Pre-Main-Sequence Stars in the Large Magellanic Cloud. III. Accretion Rates from Hubble Space Telescope WFC2 Observations. *M. Romaniello, M. Robberto, & N. Panagia*. 608, 220 (2004)
- The Effects of Dust on Compact and Ultracompact H II Regions. *S. Jane Arthur, Stanley E. Kurtz, José Franco, & Marna Y. Albarrán*. 608, 282 (2004)
- Massive Molecular Outflows at High Spatial Resolution. *H. Beuther, P. Schilke, & F. Gueth*. 608, 330 (2004)
- Probing the Early Stages of Low-Mass Star Formation in LDN 1689N: Dust and Water in IRAS 16293–2422A. *B. and E. Ronald Stark, Goeran Sandell, Sara C. Beck, Michiel R. Hogerheijde, Ewine F. van Dishoeck, Peter van der Wal, Floris F. S. van der Tak, Frank Schaefer, Gary J. Melnick, Matt L. N. Ashby, & Gert de Lange*. 608, 341 (2004)
- The FU Orionis Binary System and the Formation of Close Binaries. *Bo Reipurth & Colin Aspin*. 608, L65 (2004)
- Deep Near-Infrared Observations of the W3 Main Star-forming Region. *D. K. Ojha, M. Tamura, Y. Nakajima, M. Fukagawa, K. Sugitani, C. Nagashima, T. Nagayama, T. Nagata, S. Sato, A. J. Pickles, & K. Ogura*. 608, 797 (2004)
- PV Cephei: Young Star Caught Speeding? *Alyssa A. Goodman & Héctor G. Arce*. 608, 831 (2004)
- STARS: FUNDAMENTAL PARAMETERS**
- The Effective Temperatures of Hot Stars. II. The Early-O Types. *Miriam García & Luciana Bianchi*. 606, 497 (2004)
- On the Nature of the Flux Variability during an Expansion Stage of a Type I X-Ray Burst: Constraints on Neutron Star Parameters for 4U 1820–30. *Nikolai Shaposhnikov & Lev Titarchuk*. 606, L57 (2004)
- A Helium White Dwarf of Extremely Low Mass. *James Liebert, P. Bergeron, Daniel Eisenstein, H. C. Harris, S. J. Kleinman, Atsuko Nitta, & Jurek Krzesinski*. 606, L147 (2004)
- Terminal Velocities of Luminous, Early-Type Small Magellanic Cloud Stars. *C. J. Evans, D. J. Lennon, C. Trundle, S. R. Heap, & D. J. Lindler*. 607, 451 (2004)
- Dust in the Photospheric Environment. II. Effect on the Near-Infrared Spectra of L and T Dwarfs. *Takashi Tsuji, Tadashi Nakajima, & Kenshi Yamagisawa*. 607, 511 (2004)
- The Physical Properties and Effective Temperature Scale of O-Type Stars as a Function of Metallicity. I. A Sample of 20 Stars in the Magellanic Clouds. *Philip Massey, Fabio Bresolin, Rolf P. Kudritzki, Joachim Puls, & A. W. A. Pauldrach*. 608, 1001 (2004)
- A CNO Dichotomy among O2 Giant Spectra in the Magellanic Clouds. *Nolan R. Walborn, Nidia I. Morrell, Ian D. Howarth, Paul A. Crowther, Daniel J. Lennon, Philip Massey, & Julia I. Arias*. 608, 1028 (2004)
- STARS: HERTZSPRUNG-RUSSELL DIAGRAM**
- Models for Solar Abundance Stars with Gravitational Settling and Radiative Accelerations: Application to M67 and NGC 188. *G. Michaud, O. Richard, J. Richer, & Don A. Vandenberg*. 606, 452 (2004)
- STARS: HORIZONTAL-BRANCH**
- The Identification of Blue Horizontal-Branch Stars in the Integrated Spectra of Globular Clusters. *Ricardo P. Schiavon, James A. Rose, Stéphane Courteau, & Lauren A. MacArthur*. 608, L33 (2004)
- STARS: IMAGING**
- Thirty-Five New Pulsating DA White Dwarf Stars. *Anjum S. Mukadam, F. Mullally, R. E. Nather, D. E. Winget, Ted von Hippel, S. J. Kleinman, Atsuko Nitta, Jurek Krzesinski, S. O. Kepler, A. Kanaan, D. Koester, D. J. Sullivan, D. Homeier, S. E. Thompson, D. Reaves, C. Cotter, D. Slaughter, & J. Brinkmann*. 607, 982 (2004)
- STARS: INDIVIDUAL**
- Constellation Name: Aquila X-1**
- Evolution of Spectral States of Aquila X-1 during the 2000 Outburst. *Dipankar Maitra & Charles D. Bailyn*. 608, 444 (2004)
- Constellation Name: V1494 Aquilae**
- Detection of Two-armed Spiral Shocks on the Accretion Disk of the Eclipsing Fast Nova V1494 Aquilae. *Izumi Hachisu, Mariko Kato, & Taichi Kato*. 606, L139 (2004)
- Constellation Name: PV Cephei**
- PV Cephei: Young Star Caught Speeding? *Alyssa A. Goodman & Héctor G. Arce*. 608, 831 (2004)
- Constellation Name: GP Comae Berenices**
- Detection of Nitrogen and Neon in the X-Ray Spectrum of GP Comae Berenices with XMM/Newton. *Tod E. Strohmayer*. 608, L53 (2004)
- Constellation Name: UW Coronae Borealis**
- The Discovery of Optical Bursts from MS 1603.6+2600 (UW Coronae Borealis). *R. I. Hynes, E. L. Robinson, & E. Jeffery*. 608, L101 (2004)

Constellation Name: TW Hydrae

The Far-Ultraviolet Spectra of TW Hydrae. II. Models of H₂ Fluorescence in a Disk. *Gregory J. Herczeg, Brian E. Wood, Jeffrey L. Linsky, Jeff A. Valenti, & Christopher M. Johns-Krull.* 607, 369 (2004)

Constellation Name: V838 Monocerotis

0.8–13 Micron Spectroscopy of V838 Monocerotis and a Model for Its Emission. *David K. Lynch, Richard J. Rudy, Ray W. Russell, S. Mazuk, Catherine C. Venturini, W. Dimpfl, Lawrence S. Bernstein, Michael L. Sitko, Sergio Fajardo-Acosta, Alan Tokunaga, Roger Knacke, Richard C. Puetter, & R. Brad Perry.* 607, 460 (2004)

Constellation Name: RY Persei

Mass and Angular Momentum Transfer in the Massive Algol Binary RY Persei. *P. Barai, D. R. Gies, E. Choi, V. Das, R. Deo, W. Huang, K. Marshall, M. V. McSwain, C. Ogden, M. A. Osterman, R. L. Riddle, J. L. Seymour, Jr., D. W. Wingert, A. B. Kaye, & G. J. Peters.* 608, 989 (2004)

Constellation Name: GG Tauri

A Multiwavelength Scattered Light Analysis of the Dust Grain Population in the GG Tauri Circumbinary Ring. *G. Duchêne, C. McCabe, A. M. Ghez, & B. A. Macintosh.* 606, 969 (2004)

Henry Draper Number: HD 104237

The Environment of the Optically Brightest Herbig Ae Star, HD 104237. *C. A. Grady, B. Woodgate, Carlos A. O. Torres, T. Henning, D. Apai, J. Rodmann, Hongchi Wang, B. Stecklum, H. Linz, G. M. Williger, A. Brown, E. Wilkinson, G. M. Harper, G. J. Herczeg, A. Danks, G. L. Vieira, E. Malumuth, N. R. Collins, & R. S. Hill.* 608, 809 (2004)

Name: Algol

Doppler Shifts and Broadening and the Structure of the X-Ray Emission from Algol. *Sun Mi Chung, Jeremy J. Drake, Vinay L. Kashyap, Li Wei Lin, & Peter W. Ratzlaff.* 606, 1184 (2004)

Name: van Maanen 2

Mid-Infrared Observations of van Maanen 2: No Substellar Companion. *J. Farihi, E. E. Becklin, & B. A. Macintosh.* 608, 1109 (2004)

Alphanumeric: CS 29498-043

Oxygen Overabundance in the Extremely Iron-poor Star CS 29498–043. *Wako Aoki, John E. Norris, Sean G. Ryan, Timothy C. Beers, Norbert Christlieb, Stelios Tsangarides, & Hiroyasu Ando.* 608, 971 (2004)

Alphanumeric: GRS 1915+105

Evidence of Class Transitions in GRS 1915+105 from Indian X-Ray Astronomy Experiment Data. *Sandip K. Chakrabarti, A. Nandi, Asit Choudhury, & Utpal Chatterjee.* 607, 406 (2004)

Magnetic Floods: A Scenario for the Variability of the Microquasar GRS 1915+105. *M. Tagger, P. Varnière, J. Rodriguez, & R. Pellat.* 607, 410 (2004)

Alphanumeric: Holmberg II X-1

A Transition to a Low/Soft State in the Ultraluminous Compact X-Ray Source Holmberg II X-1. *Galab C. Dewangan, Takamitsu Miyaji, Richard E. Griffiths, & Ingo Lehmann.* 608, 157 (2004)

Alphanumeric: KH 15D

The Circumbinary Ring of KH 15D. *Eugene I. Chiang & Ruth A. Murray-Clay.* 607, 913 (2004)

Alphanumeric: KPD 0005+5106

Discovery of an O vi-emitting Nebula around the Hot White Dwarf KPD 0005+5106. *Birgit Otte, W. Van Dyke Dixon, & Ravi Sankrit.* 606, 1143 (2004)

Alphanumeric: LkH α 101

Interstellar H γ Line Absorption toward LkH α 101. *Sean D. Brittain, Theodore Simon, Craig Kulesa, & Terrence W. Rettig.* 606, 911 (2004)

Alphanumeric: LkH α 234

Evidence of Planetesimal Infall onto the Very Young Herbig Be Star LkH α 234. *Abhijit Chakraborty, Jian Ge, & Suvrat Mahadevan.* 606, L69 (2004)

Alphanumeric: MOA 2003-BLG-53

OGLE 2003-BLG-235/MOA 2003-BLG-53: A Planetary Microlensing Event. *I. A. Bond, A. Udalski, M. Jaroszyński, N. J. Rattenbury, B. Paczyński, I. Soszyński, L. Wyrzykowski, M. K. Szymański, M. Kubiak, O. Szweczyk, K. Zebur, G. Pietrzyński, F. Abe, D. P. Bennett, S. Eguchi, Y. Furuta, J. B. Hearnshaw, K. Kamiya, P. M. Kilmartin, Y. Kurata, K. Masuda, Y. Matsubara, Y. Muraki, S. Noda, K. Okajima, T. Sako, T. Sekiguchi, D. J. Sullivan, T. Sumi, P. J. Tristram, T. Yanagisawa, & P. C. M. Yock.* 606, L155 (2004)

Alphanumeric: MXB 1659–29

Monitoring *Chandra* Observations of the Quasi-persistent Neutron Star X-Ray Transient MXB 1659–29 in Quiescence: The Cooling Curve of the Heated Neutron Star Crust. *Rudy Wijanands, Jeroen Homan, Jon M. Miller, & Walter H. G. Lewin.* 606, L61 (2004)

Alphanumeric: OGLE 2003-BLG-235

OGLE 2003-BLG-235/MOA 2003-BLG-53: A Planetary Microlensing Event. *I. A. Bond, A. Udalski, M. Jaroszyński, N. J. Rattenbury, B. Paczyński, I. Soszyński, L. Wyrzykowski, M. K. Szymański, M. Kubiak, O. Szweczyk, K. Zebur, G. Pietrzyński, F. Abe, D. P. Bennett, S. Eguchi, Y. Furuta, J. B. Hearnshaw, K. Kamiya, P. M. Kilmartin, Y. Kurata, K. Masuda, Y. Matsubara, Y. Muraki, S. Noda, K. Okajima, T. Sako, T. Sekiguchi, D. J. Sullivan, T. Sumi, P. J. Tristram, T. Yanagisawa, & P. C. M. Yock.* 606, L155 (2004)

Alphanumeric: PG 1716+426

Discovery of Gravity-Mode Pulsators among Subdwarf B Stars: PG 1716+426, the Class Prototype. *M. D. Reed, E. M. Green, K. Callender, J. R. Seitzman, B. A. White, E. A. Hyde, M. K. Giovanni, R. Østensen, A. Bronowska, E. J. Jeffery, O. Cordes, S. Falter, H. Edelmann, S. Dreizler, & S. L. Schuh.* 607, 445 (2004)

Alphanumeric: 4U 1820–30

On the Nature of the Flux Variability during an Expansion Stage of a Type I X-Ray Burst: Constraints on Neutron Star Parameters for 4U 1820–30. *Nikolai Shaposhnikov & Lev Titarchuk.* 606, L57 (2004)

STARS: INTERIORS

Models for the Rapidly Rotating Be Star Achernar. *Stephen Jackson, Keith B. MacGregor, & Andrew Skumanich.* 606, 1196 (2004)

The Effects of Rotation on Thermal X-Ray Afterglows Resulting from Pulsar Glitches. *C. Y. Hui & K. S. Cheng.* 608, 935 (2004)

Nucleation of Quark Matter in Neutron Star Cores. *T. Harko, K. S. Cheng, & P. S. Tang.* 608, 945 (2004)

STARS: KINEMATICS

Orbital Capture of Stars by a Massive Black Hole via Exchanges with Compact Remnants. *Tal Alexander & Mario Livio.* 606, L21 (2004)

The Becklin-Neugebauer Object as a Runaway B Star, Ejected 4000 Years Ago from the θ^1 Orionis C System. *Jonathan C. Tan.* 607, L47 (2004)

PV Cephei: Young Star Caught Speeding? *Alyssa A. Goodman & Héctor G. Arce.* 608, 831 (2004)

STARS: LATE-TYPE

Spectral Classification and Effective Temperatures of L and T Dwarfs Based on Near-Infrared Spectra. *Tadashi Nakajima, Takashi Tsuji, & Kenshi Yanagisawa.* 607, 499 (2004)

Dust in the Photospheric Environment. II. Effect on the Near-Infrared Spectra of L and T Dwarfs. *Takashi Tsuji, Tadashi Nakajima, & Kenshi Yanagisawa.* 607, 511 (2004)

A Submillimeter Search of Nearby Young Stars for Cold Dust: Discovery of Debris Disks around Two Low-Mass Stars. *Michael C. Liu, Brenda C. Matthews, Jonathan P. Williams, & Paul G. Kalas.* 608, 526 (2004)

STARS: LOW-MASS, BROWN DWARFS

Resolution of the MACHO-LMC-5 Puzzle: The Jerk-Parallax Microlens Degeneracy. *Andrew Gould.* 606, 319 (2004)

A Helium White Dwarf of Extremely Low Mass. *James Liebert, P. Bergeron, Daniel Eisenstein, H. C. Harris, S. J. Kleinman, Atsuko Nitta, & Jurek Krzesinski.* 606, L147 (2004)

Spectral Classification and Effective Temperatures of L and T Dwarfs Based on Near-Infrared Spectra. *Tadashi Nakajima, Takashi Tsuji, & Kenshi Yanagisawa.* 607, 499 (2004)

Dust in the Photospheric Environment. II. Effect on the Near-Infrared Spectra of L and T Dwarfs. *Takashi Tsuji, Tadashi Nakajima, & Kenshi Yanagisawa.* 607, 511 (2004)

Resolving the Nature of the Large Magellanic Cloud Microlensing Event MACHO-LMC-5. *A. J. Drake, K. H. Cook, & S. C. Keller.* 607, L29 (2004)

Mid-Infrared Observations of van Maanen 2: No Substellar Companion. *J. Farihi, E. E. Becklin, & B. A. Macintosh.* 608, L109 (2004)

A *Chandra* Observation of a TW Hydrae Association Brown Dwarf. *John E. Gizis & Ravi Bharat.* 608, L113 (2004)

STARS: LUMINOSITY FUNCTION, MASS FUNCTION

The Luminosity Function and Color-Magnitude Diagram of the Globular Cluster M12. *Jonathan R. Hargis, Eric L. Sandquist, & Michael Bolte.* 608, 243 (2004)

STARS: MAGNETIC FIELDS

- Accretion onto Fast X-Ray Pulsars. *S. A. Rappaport, J. M. Fregeau, & H. Spruit.* 606, 436 (2004)
- Spectral Features in the Thermal Emission from Isolated Neutron Stars: Dependence on Magnetic Field Strengths. *Wynn C. G. Ho & Dong Lai.* 607, 420 (2004)
- Does Disk Locking Solve the Stellar Angular Momentum Problem? *Sean Matt & Ralph E. Pudritz.* 607, L43 (2004)
- Magnetic Influence on the Stability of Luminous Stellar Envelopes. *Richard B. Stothers.* 607, 999 (2004)
- Magnetorotational Effects on Anisotropic Neutrino Emission and Convection in Core-Collapse Supernovae. *Kei Kotake, Hidetomo Sawai, Shoichi Yamada, & Katsuhiko Sato.* 608, 391 (2004)
- On Time Evolution and Causality of Force-Free Black Hole Magnetospheres. *Amir Levinson.* 608, 411 (2004)
- Magnetars: Time Evolution, Superfluid Properties, and the Mechanism of Magnetic Field Decay. *P. Arras, A. Cumming, & C. Thompson.* 608, L49 (2004)
- Numerical Study on the Rotational Collapse of Strongly Magnetized Cores of Massive Stars. *Shoichi Yamada & Hidetomo Sawai.* 608, 907 (2004)
- Constraining the X-Ray Luminosities of Asymptotic Giant Branch Stars: TX Camelopardalis and T Cassiopeia. *Joel H. Kastner & Noam Soker.* 608, 978 (2004)

STARS: MASS LOSS

- The Diversity of Gamma-Ray Burst Afterglows and the Surroundings of Massive Stars. *Roger A. Chevalier, Zhi-Yun Li, & Claes Fransson.* 606, 369 (2004)
- The Effective Temperatures of Hot Stars. II. The Early-O Types. *Miriam Garcia & Luciana Bianchi.* 606, 497 (2004)
- Kelvin-Helmholtz Instability in a Weakly Ionized Medium. *C. Watson, E. G. Zweibel, F. Heitsch, & E. Churchwell.* 608, 274 (2004)
- Constraining the X-Ray Luminosities of Asymptotic Giant Branch Stars: TX Camelopardalis and T Cassiopeia. *Joel H. Kastner & Noam Soker.* 608, 978 (2004)
- The Physical Properties and Effective Temperature Scale of O-Type Stars as a Function of Metallicity. I. A Sample of 20 Stars in the Magellanic Clouds. *Philip Massey, Fabio Bresolin, Rolf P. Kudritzki, Joachim Puls, & A. W. A. Pauldrach.* 608, 1001 (2004)

STARS: NEUTRON

- Diagnostics of Neutron Star and Black Hole X-Ray Binaries with X-Ray Shot Widths. *Hua Feng, T. P. Li, & S. N. Zhang.* 606, 424 (2004)
- An Explanation for Metallicity Effects on X-Ray Binary Properties. *Thomas J. Maccarone, Arunav Kundu, & Stephen E. Zepf.* 606, 430 (2004)
- Accretion onto Fast X-Ray Pulsars. *S. A. Rappaport, J. M. Fregeau, & H. Spruit.* 606, 436 (2004)
- Variations in the Spin Period of the Radio-Quiet Pulsar 1E 1207.4–5209. *Vyacheslav E. Zavlin, George G. Pavlov, & Divas Sanwal.* 606, 444 (2004)
- The Inner Annular Gap for Pulsar Radiation: γ -Ray and Radio Emission. *G. J. Qiao, K. J. Lee, H. G. Wang, R. X. Xu, & J. L. Han.* 606, L49 (2004)
- Monitoring *Chandra* Observations of the Quasi-persistent Neutron Star X-Ray Transient MXB 1659–29 in Quiescence: The Cooling Curve of the Heated Neutron Star Crust. *Rudy Wijmans, Jeroen Homan, Jon M. Miller, & Walter H. G. Lewin.* 606, L61 (2004)
- High-Altitude Particle Acceleration and Radiation in Pulsar Slot Gaps. *Alex G. Muslimov & Alice K. Harding.* 606, 1143 (2004)
- Spectral Features in the Thermal Emission from Isolated Neutron Stars: Dependence on Magnetic Field Strengths. *Wynn C. G. Ho & Dong Lai.* 607, 420 (2004)
- The Rates of Hypernovae and Gamma-Ray Bursts: Implications for Their Progenitors. *Ph. Podsiadlowski, P. A. Mazzali, K. Nomoto, D. Lazzati, & E. Cappellaro.* 607, L17 (2004)
- Ultracompact Binaries as Bright X-Ray Sources in Elliptical Galaxies. *Lars Bildsten & Christopher J. Deloye.* 607, L119 (2004)
- Gamma-Ray Emission Properties from Mature Pulsars in the Galaxy and in the Gould Belt. *K. S. Cheng, L. Zhang, P. Leung, & Z. J. Jiang.* 608, 418 (2004)
- Pronounced Long-Term Flux Variability of the Anomalous X-Ray Pulsar 1E 1048.1–5937. *S. Mereghetti, A. Tiengo, L. Stella, G. L. Israel, N. Rea, S. Zane, & T. Oosterbroek.* 608, 427 (2004)

- A Strong, Broad Absorption Feature in the X-Ray Spectrum of the Nearby Neutron Star RX J1605.3+3249. *M. H. van Kerkwijk, D. L. Kaplan, M. Durant, S. R. Kulkarni, & F. Paerels.* 608, 432 (2004)
- Evolution of Spectral States of Aquila X-1 during the 2000 Outburst. *Dipankar Maitra & Charles D. Bailyn.* 608, 444 (2004)
- Magnetars: Time Evolution, Superfluid Properties, and the Mechanism of Magnetic Field Decay. *P. Arras, A. Cumming, & C. Thompson.* 608, L49 (2004)
- The Nuclear Reaction Waiting Points: ^{22}Mg , ^{26}Si , ^{30}S , and ^{34}Ar and Bolometrically Double-peaked Type I X-Ray Bursts. *Jacob Lund Fisker, Friedrich-Karl Thielemann, & Michael Wiescher.* 608, L61 (2004)
- The Effect of Neutron Star Rotation on the Properties of Thermonuclear X-Ray Bursts. *Michael P. Muno, Duncan K. Galloway, & Deepthi Chakrabarty.* 608, 930 (2004)
- The Effects of Rotation on Thermal X-Ray Afterglows Resulting from Pulsar Glitches. *C. Y. Hui & K. S. Cheng.* 608, 935 (2004)
- Nucleation of Quark Matter in Neutron Star Cores. *T. Harko, K. S. Cheng, & P. S. Tang.* 608, 945 (2004)

STARS: NOVAE, CATAclysmic VARIABLES

- Detection of Two-armed Spiral Shocks on the Accretion Disk of the Eclipsing Fast Nova V1494 Aquilae. *Izumi Hachisu, Mariko Kato, & Taichi Kato.* 606, L139 (2004)
- On the Steady Nature of Line-Driven Disk Winds. *Nicolas A. Pereyra, Stanley P. Owocki, D. John Hillier, & David A. Turnshek.* 608, 454 (2004)
- Detection of Nitrogen and Neon in the X-Ray Spectrum of GP Comae Berenices with *XMM/Newton*. *Tod E. Strohmayer.* 608, L53 (2004)
- Seismology of the Accreting White Dwarf in GW Librae. *Dean M. Townsley, Phil Arras, & Lars Bildsten.* 608, L105 (2004)

STARS: OSCILLATIONS

- Discovery of Gravity-Mode Pulsators among Subdwarf B Stars: PG 1716+426, the Class Prototype. *M. D. Reed, E. M. Green, K. Callera, I. R. Seizenzahl, B. A. White, E. A. Hyde, M. K. Giovanni, R. Østensen, A. Bronowska, E. J. Jeffery, O. Cordes, S. Falter, H. Edelmann, S. Dreizler, & S. L. Schuh.* 607, 445 (2004)
- Thirty-Five New Pulsating DA White Dwarf Stars. *Anjum S. Mukadam, F. Mullally, R. E. Nather, D. E. Winget, Ted von Hippel, S. J. Kleinman, Atsuko Nitta, Jurek Krzesiński, S. O. Kepler, A. Kanaan, D. Koester, D. J. Sullivan, D. Homeier, S. E. Thompson, D. Reaves, C. Cotter, D. Slaughter, & J. Brinkmann.* 607, 982 (2004)
- Magnetic Influence on the Stability of Luminous Stellar Envelopes. *Richard B. Stothers.* 607, 999 (2004)

STARS: PLANETARY SYSTEMS

- OGLE 2003-BLG-235/MOA 2003-BLG-53: A Planetary Microlensing Event. *I. A. Bond, A. Udalski, M. Jaroszyński, N. J. Rattenbury, B. Paczyński, I. Soszyński, L. Wyrzykowski, M. K. Szymański, M. Kubiak, O. Szwed, K. Zebur, G. Pietrzyński, F. Abe, D. P. Bennett, S. Eguchi, Y. Furuta, J. B. Hearnshaw, K. Kamiya, P. M. Kilmartin, Y. Kurata, K. Masuda, Y. Matsubara, Y. Muraki, S. Noda, K. Okajima, T. Sako, T. Sekiguchi, D. J. Sullivan, T. Sumi, P. J. Tristram, T. Yanagisawa, & P. C. M. Yock.* 606, L155 (2004)
- The Circumbinary Ring of KH 15D. *Eugene I. Chiang & Ruth A. Murray-Clay.* 607, 913 (2004)
- Observational Completeness. *Robert A. Brown.* 607, 1003 (2004)
- Type I Planetary Migration with Magnetohydrodynamic Turbulence. *Gregory Laughlin, Adriane Steinacker, & Fred C. Adams.* 608, 489 (2004)
- Effects of Helium Phase Separation on the Evolution of Extrasolar Giant Planets. *Jonathan J. Fortney & W. B. Hubbard.* 608, 1039 (2004)
- The Internal Structural Adjustment due to Tidal Heating of Short-Period Inflated Giant Planets. *Pin-Gao Gu, Peter H. Bodenheimer, & Douglas N. C. Lin.* 608, 1076 (2004)
- Using Notch-Filter Masks for High-Contrast Imaging of Extrasolar Planets. *John H. Debes, Jian Ge, Marc J. Kuchner, & Michael Rogosky.* 608, 1095 (2004)

STARS: PLANETARY SYSTEMS: FORMATION

- Low-Mass Protoplanet Migration in T Tauri α -Disks. *Kristen Menou & Jeremy Goodman.* 606, 520 (2004)
- Planet-Disk Symbiosis. *Re'em Sari & Peter Goldreich.* 606, L77 (2004)
- Type I Planetary Migration with Magnetohydrodynamic Turbulence. *Gregory Laughlin, Adriane Steinacker, & Fred C. Adams.* 608, 489 (2004)
- A Submillimeter Search of Nearby Young Stars for Cold Dust: Discovery of Debris Disks around Two Low-Mass Stars. *Michael C. Liu, Brenda C. Matthews, Jonathan P. Williams, & Paul G. Kalas.* 608, 526 (2004)

STARS: PLANETARY SYSTEMS: PROTOPLANETARY DISKS

- Low-Mass Protoplanet Migration in T Tauri α -Disks. *Kristen Menou & Jeremy Goodman*. 606, 520 (2004)
- Chondrule Formation and Protoplanetary Disk Heating by Current Sheets in Nonideal Magnetohydrodynamic Turbulence. *M. K. Ryan Joung, Mordecai-Mark Mac Low, & Denton S. Ebel*. 606, 532 (2004)
- High-Resolution 4.7 Micron Keck/NIRSPEC Spectroscopy of the CO Emission from the Disks Surrounding Herbig Ae Stars. *Geoffrey A. Blake & A. C. A. Boogert*. 606, L73 (2004)
- Planet-Disk Symbiosis. *Re'em Sari & Peter Goldreich*. 606, L77 (2004)
- A Multiwavelength Scattered Light Analysis of the Dust Grain Population in the GG Tauri Circumbinary Ring. *G. Duchêne, C. McCabe, A. M. Ghez, & B. A. Macintosh*. 606, 969 (2004)
- On the Importance of Gas Flow through Porous Bodies for the Formation of Planetesimals. *Gerhard Wurm, Georgi Paraskov, & Oliver Krauss*. 606, 983 (2004)
- Detection of H_2D^+ : Measuring the Midplane Degree of Ionization in the Disks of DM Tauri and TW Hydrae. *C. Ceccarelli, C. Dominik, B. Lefloch, P. Caselli, & E. Caux*. 607, L51 (2004)
- Disk Temperature Variations and Effects on the Snow Line in the Presence of Small Protoplanets. *Hannah Jang-Condell & Dimitar D. Sasselov*. 608, 497 (2004)
- Linear Analysis of the Magnetorotational Instability, Including Ambipolar Diffusion, with Application to Protoplanetary Disks. *S. J. Desch*. 608, 509 (2004)
- A Submillimeter Search of Nearby Young Stars for Cold Dust: Discovery of Debris Disks around Two Low-Mass Stars. *Michael C. Liu, Brenda C. Matthews, Jonathan P. Williams, & Paul G. Kalas*. 608, 526 (2004)
- The Environment of the Optically Brightest Herbig Ae Star, HD 104237. *C. A. Grady, B. Woodgate, Carlos A. O. Torres, T. Henning, D. Apai, J. Rodmann, Hongchi Wang, B. Stecklum, H. Linz, G. M. Williger, A. Brown, E. Wilkinson, G. M. Harper, G. J. Herczeg, A. Danks, G. L. Vieira, E. Malumuth, N. R. Collins, & R. S. Hill*. 608, 809 (2004)
- On the Evolution and Stability of a Protoplanetary Disk Dust Layer. *P. Garaud & D. N. C. Lin*. 608, 1050 (2004)

STARS: POPULATION II

- Spectroscopic Studies of Extremely Metal-poor Stars with the Subaru High Dispersion Spectrograph. II. The r -Process Elements, Including Thorium. *Satoshi Honda, Wako Aoki, Toshitaka Kajino, Hiroyasu Ando, Timothy C. Beers, Hideyuki Izumiura, Kozo Sadakane, & Masahide Takada-Hidai*. 607, 474 (2004)
- Oxygen Overabundance in the Extremely Iron-poor Star CS 29498–043. *Wako Aoki, John E. Norris, Sean G. Ryan, Timothy C. Beers, Norbert Christlieb, Stelios Tsangarides, & Hiroyasu Ando*. 608, 971 (2004)

STARS: PRE-MAIN-SEQUENCE

- The Irradiated Herbig-Haro Jets near σ Orionis. *Sean M. Andrews, Bo Reipurth, John Bally, & Steve R. Heathcote*. 606, 353 (2004)
- Evidence of Planetesimal Infall onto the Very Young Herbig Be Star LkHa 234. *Abhijit Chakraborty, Jian Ge, & Suvrath Mahadevan*. 606, L69 (2004)
- Hubble Space Telescope WFPC2 Study of the Trapezium Cluster: The Influence of Circumstellar Disks on the Initial Mass Function. *M. Robberto, J. Song, G. Mora Carrillo, S. V. W. Beckwith, R. B. Makidon, & N. Panagia*. 606, 952 (2004)
- IRAS 05436–0007 and the Emergence of McNeil's Nebula. *Bo Reipurth & Colin Aspin*. 606, L119 (2004)
- McNeil's Nebula in Orion: The Outburst History. *C. Briceño, A. K. Vivas, J. Hernández, N. Calvet, L. Hartmann, T. Megeath, P. Berlind, M. Calkins, & S. Hoyer*. 606, L123 (2004)
- The Far-Ultraviolet Spectra of TW Hydrae. II. Models of H_2 Fluorescence in a Disk. *Gregory J. Herczeg, Brian E. Wood, Jeffrey L. Linsky, Jeff A. Valenti, & Christopher M. Johns-Krull*. 607, 369 (2004)
- Does Disk Locking Solve the Stellar Angular Momentum Problem? *Sean Matt & Ralph E. Pudritz*. 607, L43 (2004)
- Detection of H_2D^+ : Measuring the Midplane Degree of Ionization in the Disks of DM Tauri and TW Hydrae. *C. Ceccarelli, C. Dominik, B. Lefloch, P. Caselli, & E. Caux*. 607, L51 (2004)
- Chandra Observation of the Trifid Nebula: X-Ray Emission from the O Star Complex and Actively Forming Pre-Main-Sequence Stars. *Jeonghee Rho, Solange V. Ramirez, Michael F. Corcoran, Kenji Hamaguchi, & Bertrand Lefloch*. 607, 904 (2004)

- The Circumbinary Ring of KH 15D. *Eugene I. Chiang & Ruth A. Murray-Chay*. 607, 913 (2004)
- Low-Mass Pre-Main-Sequence Stars in the Large Magellanic Cloud. III. Accretion Rates from Hubble Space Telescope WFPC2 Observations. *M. Romanelli, M. Robberto, & N. Panagia*. 608, 220 (2004)
- The FU Orionis Binary System and the Formation of Close Binaries. *Bo Reipurth & Colin Aspin*. 608, L65 (2004)
- A Deep Chandra X-Ray Observation of the Rich Young Cluster NGC 6530. I. The X-Ray Source Catalog and the Cluster Population. *F. Damiani, E. Flaccomio, G. Micela, S. Sciortino, F. R. Harnden, Jr., & S. S. Murray*. 608, 781 (2004)
- Deep Near-Infrared Observations of the W3 Main Star-forming Region. *D. K. Ojha, M. Tamura, Y. Nakajima, M. Fukagawa, K. Sugitani, C. Nagashima, T. Nagayama, T. Nagata, S. Sato, A. J. Pickles, & K. Ogura*. 608, 797 (2004)
- The Environment of the Optically Brightest Herbig Ae Star, HD 104237. *C. A. Grady, B. Woodgate, Carlos A. O. Torres, T. Henning, D. Apai, J. Rodmann, Hongchi Wang, B. Stecklum, H. Linz, G. M. Williger, A. Brown, E. Wilkinson, G. M. Harper, G. J. Herczeg, A. Danks, G. L. Vieira, E. Malumuth, N. R. Collins, & R. S. Hill*. 608, 809 (2004)

STARS: PULSARS: GENERAL

- Are Supershells Powered by Multiple Supernovae? Modeling the Radio Pulsar Population Produced by OB Associations. *Rosalba Perna & Bryan M. Gaensler*. 606, 326 (2004)
- Accretion onto Fast X-Ray Pulsars. *S. A. Rappaport, J. M. Fregeau, & H. Spruit*. 606, 436 (2004)
- The Inner Annular Gap for Pulsar Radiation: γ -Ray and Radio Emission. *G. J. Qiao, K. J. Lee, H. G. Wang, R. X. Xu, & J. L. Han*. 606, L49 (2004)
- Giant Metrewave Radio Telescope Discovery of a Millisecond Pulsar in a Very Eccentric Binary System. *Paulo C. Freire, Yashwant Gupta, Scott M. Ransom, & C. H. Ishwara-Chandra*. 606, L53 (2004)
- Constraining the Properties of Supermassive Black Hole Systems Using Pulsar Timing: Application to 3C 66B. *Fredrick A. Jenet, Andrea Lommen, Shane L. Larson, & Linqing Wen*. 606, 799 (2004)
- Relativistic Effects and Polarization in Three High-Energy Pulsar Models. *J. Dyks, Alice K. Harding, & B. Rudak*. 606, 1125 (2004)
- High-Altitude Particle Acceleration and Radiation in Pulsar Slot Gaps. *Alex G. Muslimov & Alice K. Harding*. 606, 1143 (2004)
- On the Excess Dispersion in the Polarization Position Angle of Pulsar Radio Emission. *Mark M. McKinnon*. 606, 1154 (2004)
- On the Methods of Determining the Radio Emission Geometry in Pulsar Magnetospheres. *J. Dyks, B. Rudak, & Alice K. Harding*. 607, 939 (2004)
- A Search for TeV Gamma-Ray Emission from the PSR B1259–63/SS 2883 Binary System with the Cangaroo-II 10 m Telescope. *A. Kawachi, T. Naito, J. R. Patterson, P. G. Edwards, A. Asahara, G. V. Bicknell, R. W. Clay, R. Enomoto, S. Gunji, S. Hara, T. Hara, T. Hattori, Seiichi Hayashi, Shin'ichiro Hayashi, C. Itoh, S. Kabuki, F. Kajino, H. Katagiri, T. Kifune, L. Ksenofontov, H. Kubo, J. Kushida, Y. Matsubara, Y. Mizumoto, M. Mori, H. Moro, H. Muraishi, Y. Muraki, T. Nakase, D. Nishida, K. Nishijima, M. Ohishi, K. Okumura, R. J. Protheroe, K. Sakurazawa, D. L. Swaby, T. Tanimori, F. Tokanai, K. Tsuchiya, H. Tsunoo, T. Uchida, A. Watanabe, S. Watanabe, S. Yanagita, T. Yoshida, & T. Yoshikoshi*. 607, 949 (2004)
- A Comprehensive Study of the X-Ray Bursts from the Magnetar Candidate 1E 2259+586. *Fotis P. Gavril, Victoria M. Kaspi, & Peter M. Woods*. 607, 959 (2004)
- Magnetorotational Effects on Anisotropic Neutrino Emission and Convection in Core-Collapse Supernovae. *Kei Kotake, Hidetomo Sawai, Shoichi Yamada, & Katsuhiko Sato*. 608, 391 (2004)
- Gamma-Ray Emission Properties from Mature Pulsars in the Galaxy and in the Gould Belt. *K. S. Cheng, L. Zhang, P. Leung, & Z. J. Jiang*. 608, 418 (2004)
- Numerical Study on the Rotational Collapse of Strongly Magnetized Cores of Massive Stars. *Shoichi Yamada & Hidetomo Sawai*. 608, 907 (2004)
- Nonlinear Electrodynamics and the Surface Redshift of Pulsars. *Herman J. Mosquera Cuesta & José M. Salim*. 608, 925 (2004)
- Nucleation of Quark Matter in Neutron Star Cores. *T. Harko, K. S. Cheng, & P. S. Tang*. 608, 945 (2004)

STARS: PULSARS: INDIVIDUAL

Alphanumeric: B1855+09

Constraining the Properties of Supermassive Black Hole Systems Using Pulsar Timing: Application to 3C 66B. *Fredrick A. Jenet, Andrea Lommen, Shane L. Larson, & Linqing Wen.* 606, 799 (2004)

Alphanumeric: 1E 1207—5209

Variations in the Spin Period of the Radio-Quiet Pulsar 1E 1207.4—5209. *Vyacheslav E. Zavlin, George G. Pavlov, & Divas Sanwal.* 606, 444 (2004)

Alphanumeric: 1E 2259+586

A Comprehensive Study of the X-Ray Bursts from the Magnetar Candidate 1E 2259+586. *Fotis P. Gavril, Victoria M. Kaspi, & Peter M. Woods.* 607, 959 (2004)

Alphanumeric: PSR B1929+10

On the Excess Dispersion in the Polarization Position Angle of Pulsar Radio Emission. *Mark M. McKinnon.* 606, 1154 (2004)

Alphanumeric: PSR B2016+28

Effect of Quasi-Orthogonal Emission Modes on the Rotation Measures of Pulsars. *R. Ramachandran, D. C. Backer, Joanna M. Rankin, J. M. Weisberg, & K. E. Devine.* 606, 1167 (2004)

Alphanumeric: PSR B2020+28

On the Excess Dispersion in the Polarization Position Angle of Pulsar Radio Emission. *Mark M. McKinnon.* 606, 1154 (2004)

Alphanumeric: PSR J0514—4002A

Giant Metrewave Radio Telescope Discovery of a Millisecond Pulsar in a Very Eccentric Binary System. *Paulo C. Freire, Yashwant Gupta, Scott M. Ransom, & C. H. Ishwara-Chandra.* 606, L53 (2004)

STARS: ROTATION

Models for the Rapidly Rotating Be Star Achernar. *Stephen Jackson, Keith B. MacGregor, & Andrew Skumanich.* 606, 1196 (2004)

Local Axisymmetric Diffusive Stability of Weakly Magnetized, Differentially Rotating, Stratified Fluids. *Kristen Menou, Steven A. Balbus, & Henk C. Spruit.* 607, 564 (2004)

Does Disk Locking Solve the Stellar Angular Momentum Problem? *Sean Matt & Ralph E. Pudritz.* 607, L43 (2004)

The Effect of Neutron Star Rotation on the Properties of Thermonuclear X-Ray Bursts. *Michael P. Muno, Duncan K. Galloway, & Deepto Chakrabarty.* 608, 930 (2004)

STARS: STATISTICS

Gamma-Ray Emission Properties from Mature Pulsars in the Galaxy and in the Gould Belt. *K. S. Cheng, L. Zhang, P. Leung, & Z. J. Jiang.* 608, 418 (2004)

STARS: SUBDWARFS

A Catalog of Spectroscopically Identified White Dwarf Stars in the First Data Release of the Sloan Digital Sky Survey. *S. J. Kleinman, Hugh C. Harris, Daniel J. Eisenstein, James Liebert, Atsuko Nitta, Jurek Krzesiński, Jeffrey A. Munn, Conrad C. Dahn, Suzanne L. Hawley, Jeffrey R. Pier, Gary Schmidt, Nicole M. Silvestri, J. Allyn Smith, Paula Szkody, Michael A. Strauss, G. R. Knapp, Matthew J. Collinge, A. S. Mukadam, D. Koester, Alan Uomoto, D. J. Schlegel, Scott F. Anderson, J. Brinkmann, D. Q. Lamb, Donald P. Schneider, & Donald G. York.* 607, 426 (2004)

Discovery of Gravity-Mode Pulsators among Subdwarf B Stars: PG 1716+426, the Class Prototype. *M. D. Reed, E. M. Green, K. Callera, I. R. Seitenzahl, B. A. White, E. A. Hyde, M. K. Giovanni, R. Østensen, A. Bronowska, E. J. Jeffery, O. Cordes, S. Falter, H. Edelmann, S. Dreizler, & S. L. Schuh.* 607, 445 (2004)

STARS: SUPERNOVAE: GENERAL

Are Supershells Powered by Multiple Supernovae? Modeling the Radio Pulsar Population Produced by OB Associations. *Rosalba Perna & Bryan M. Gaensler.* 606, 326 (2004)

The Diversity of Gamma-Ray Burst Afterglows and the Surroundings of Massive Stars. *Roger A. Chevalier, Zhi-Yun Li, & Claes Fransson.* 606, 369 (2004)

The Detailed Optical Light Curve of GRB 030329. *Y. M. Lipkin, E. O. Ofek, A. Gal-Yam, E. M. Leibowitz, D. Poznanski, S. Kaspi, D. Polishook, S. R. Kulkarni, D. W. Fox, E. Berger, N. Mirabal, J. Halpern, M. Bureau, K. Fathi, P. A. Price, B. A. Peterson, A. Frebel, B. Schmidt, J. A. Orosz, J. B. Fitzgerald, J. S. Bloom, P. G. van Dokkum, C. D. Bailyn, M. M. Buxton, & M. Barsony.* 606, 381 (2004)

General Relativistic Magnetohydrodynamic Simulations of Collapsars. *Yosuke Mizuno, Shoichi Yamada, Shinji Koide, & Kazunari Shibata.* 606, 395 (2004)

Direct Analysis of Spectra of the Peculiar Type Ia Supernova 2000cx. *David Branch, R. C. Thomas, E. Baron, Daniel Kasen, Kazuhito Hatano, K. Nomoto, Alexei V. Filippenko, Weidong Li, & Richard J. Rudy.* 606, 413 (2004)

Numerical Analyses of Isotopic Ratios of Presolar Grains from Supernovae. *Takashi Yoshida & Masa-aki Hashimoto.* 606, 592 (2004)

Model-independent Constraints on Dark Energy Density from Flux-Averaging Analysis of Type Ia Supernova Data. *Yun Wang & Pia Mukherjee.* 606, 654 (2004)

A Redshift Determination for XRF 020903: First Spectroscopic Observations of an X-Ray Flash. *A. M. Soderberg, S. R. Kulkarni, E. Berger, D. B. Fox, P. A. Price, S. A. Yost, M. P. Hunt, D. A. Frail, R. C. Walker, M. Hamuy, S. A. Sackett, J. P. Halpern, & N. Mirabal.* 606, 994 (2004)

Direct Numerical Simulations of Type Ia Supernovae Flames. I. The Landau-Darrieus Instability. *J. B. Bell, M. S. Day, C. A. Rendleman, S. E. Woosley, & M. Zingale.* 606, 1029 (2004)

The Linear Instability of Astrophysical Flames in Magnetic Fields. *L. J. Dursi.* 606, 1039 (2004)

The *r*-Process in Supernovae: Impact of New Microscopic Mass Formulae. *Shinya Wanajo, Stephane Goriely, Mathieu Samyn, & Naoki Itoh.* 606, 1057 (2004)

Cosmic Star Formation History and the Future Observation of Supernova Relic Neutrinos. *Shin'ichiro Ando.* 607, 20 (2004)

SN 2003du: Signatures of the Circumstellar Environment in a Normal Type Ia Supernova? *Christopher L. Gerardy, Peter Häflich, Robert A. Fesen, G. H. Marion, Ken'ichi Nomoto, Robert Quimby, Bradley E. Schaefer, Lijian Wang, & J. Craig Wheeler.* 607, 391 (2004)

The Rates of Hypernovae and Gamma-Ray Bursts: Implications for Their Progenitors. *Ph. Podsiadlowski, P. A. Mazzali, K. Nomoto, D. Lazzati, & E. Cappellaro.* 607, L17 (2004)

Type Ia Supernova Discoveries at $z > 1$ from the *Hubble Space Telescope*: Evidence for Past Deceleration and Constraints on Dark Energy Evolution. *Adam G. Riess, Louis-Gregory Strolger, John Tonry, Stefano Casertano, Henry C. Ferguson, Bahram Mobasher, Peter Challis, Alexei V. Filippenko, Saurabh Jha, Weidong Li, Ryan Chornock, Robert P. Kirshner, Bruno Leibundgut, Mark Dickinson, Mario Livio, Mauro Giavalisco, Charles C. Steidel, Txitxo Benítez, & Zlatan Tsvetanov.* 607, 665 (2004)

Carbon Ignition in Type Ia Supernovae: An Analytic Model. *S. E. Woosley, S. Wunsch, & M. Kuhlen.* 607, 921 (2004)

Raising the Dead: Clues to Type Ia Supernova Physics from the Remnant 0509—67.5. *Jessica S. Warren & John P. Hughes.* 608, 261 (2004)

Magnetorotational Effects on Anisotropic Neutrino Emission and Convection in Core-Collapse Supernovae. *Kei Kotake, Hidetomo Sawai, Shoichi Yamada, & Katsuhiko Sato.* 608, 391 (2004)

Explosive Yields of Massive Stars from $Z = 0$ to $Z = Z_{\odot}$. *Alessandro Chieffi & Marco Limongi.* 608, 405 (2004)

Direct Numerical Simulations of Type Ia Supernovae Flames. II. The Rayleigh-Taylor Instability. *J. B. Bell, M. S. Day, C. A. Rendleman, S. E. Woosley, & M. Zingale.* 608, 883 (2004)

Numerical Study on the Rotational Collapse of Strongly Magnetized Cores of Massive Stars. *Shoichi Yamada & Hidetomo Sawai.* 608, 907 (2004)

Compton Echoes from Gamma-Ray Bursts: Unveiling Misaligned Jets in Nearby Type Ib/c Supernovae. *Enrico Ramirez-Ruiz & Piero Madua.* 608, L89 (2004)

The Supernova Associated with GRB 031203: SMARTS Optical-Infrared Light Curves from 0.2 to 92 Days. *B. E. Cobb, C. D. Bailyn, P. G. van Dokkum, M. M. Buxton, & J. S. Bloom.* 608, L93 (2004)

STARS: SUPERNOVAE: INDIVIDUAL
Alphanumeric: PKS 1209—51/52

Variations in the Spin Period of the Radio-Quiet Pulsar 1E 1207.4—5209. *Vyacheslav E. Zavlin, George G. Pavlov, & Divas Sanwal.* 606, 444 (2004)

Alphanumeric: SN 1998bw

Constraints on Off-Axis Gamma-Ray Burst Jets in Type Ib/c Supernovae from Late-Time Radio Observations. *A. M. Soderberg, D. A. Frail, & M. H. Wieringa.* 607, L13 (2004)

Chandra Observations of the X-Ray Environs of SN 1998bw/GRB 980425. *C. Kouveliotou, S. E. Woosley, S. K. Patel, A. Levani, R. Blandford,*

E. Ramirez-Ruiz, R. A. M. J. Wijers, M. C. Weisskopf, A. Tennant, E. Pian, & P. Giommi. 608, 872 (2004)

Alphanumeric: SN 2000cx

Direct Analysis of Spectra of the Peculiar Type Ia Supernova 2000cx. *David Branch, R. C. Thomas, E. Baron, Daniel Kasen, Kazuhito Hatano, K. Nomoto, Alexei V. Filippenko, Weidong Li, & Richard J. Rudy.* 606, 413 (2004)

Alphanumeric: SN 2003dh

The Detailed Optical Light Curve of GRB 030329. *Y. M. Lipkin, E. O. Ofek, A. Gal-Yam, E. M. Leibowitz, D. Poznanski, S. Kaspi, D. Polishook, S. R. Kulkarni, D. W. Fox, E. Berger, N. Mirabal, J. Halpern, M. Bureau, K. Fathi, P. A. Price, B. A. Peterson, A. Frebel, B. Schmidt, J. A. Orosz, J. B. Fitzgerald, J. S. Bloom, P. G. van Dokkum, C. D. Bailyn, M. M. Buxton, & M. Barsony.* 606, 381 (2004)

Alphanumeric: SN 2003lw

The Supernova Associated with GRB 031203: SMARTS Optical-Infrared Light Curves from 0.2 to 92 Days. *B. E. Cobb, C. D. Bailyn, P. G. van Dokkum, M. M. Buxton, & J. S. Bloom.* 608, L93 (2004)

STARS: VARIABLES: CEPHEIDS

The Effect of Metallicity on Cepheid-based Distances. *Shoko Sakai, Laura Ferrarese, Robert C. Kennicutt, Jr., & Abhijit Saha.* 608, 42 (2004)

STARS: VARIABLES: OTHER

IRAS 05436—0007 and the Emergence of McNeil's Nebula. *Bo Reipurth & Colin Aspin.* 606, L119 (2004)

McNeil's Nebula in Orion: The Outburst History. *C. Briceño, A. K. Vivas, J. Hernández, N. Calvet, L. Hartmann, T. Megeath, P. Berlind, M. Calkins, & S. Hoyer.* 606, L123 (2004)

0.8–13 Micron Spectroscopy of V838 Monocerotis and a Model for Its Emission. *David K. Lynch, Richard J. Rudy, Ray W. Russell, S. Mazuk, Catherine C. Venturini, W. Dimpfl, Lawrence S. Bernstein, Michael L. Sisko, Sergio Fajardo-Acosta, Alan Tokunaga, Roger Knacke, Richard C. Puetter, & R. Brad Perry.* 607, 460 (2004)

Thirty-Five New Pulsating DA White Dwarf Stars. *Anjum S. Mukadam, F. Mullally, R. E. Nather, D. E. Winget, Ted von Hippel, S. J. Kleinman, Atsuko Nitta, Jurek Krzesiński, S. O. Kepler, A. Kanaan, D. Koester, D. J. Sullivan, D. Homeier, S. E. Thompson, D. Reaves, C. Cotter, D. Slaughter, & J. Brinkmann.* 607, 982 (2004)

Magnetic Influence on the Stability of Luminous Stellar Envelopes. *Richard B. Stothers.* 607, 999 (2004)

STARS: WHITE DWARFS

Direct Numerical Simulations of Type Ia Supernovae Flames. I. The Landau-Darrieus Instability. *J. B. Bell, M. S. Day, C. A. Rendleman, S. E. Woosley, & M. Zingale.* 606, 1029 (2004)

The Linear Instability of Astrophysical Flames in Magnetic Fields. *L. J. Dursi.* 606, 1039 (2004)

Discovery of an O VI-emitting Nebula around the Hot White Dwarf KPD 0005+5106. *Birgitte Otte, W. Van Dyke Dixon, & Ravi Sankrit.* 606, L143 (2004)

A Helium White Dwarf of Extremely Low Mass. *James Liebert, P. Bergeron, Daniel Eisenstein, H. C. Harris, S. J. Kleinman, Atsuko Nitta, & Jurek Krzesiński.* 606, L147 (2004)

A Catalog of Spectroscopically Identified White Dwarf Stars in the First Data Release of the Sloan Digital Sky Survey. *S. J. Kleinman, Hugh C. Harris, Daniel J. Eisenstein, James Liebert, Atsuko Nitta, Jurek Krzesiński, Jeffrey A. Munn, Conrad C. Dahn, Suzanne L. Hawley, Jeffrey R. Pier, Gary Schmidt, Nicole M. Silvestri, J. Allyn Smith, Paula Szkody, Michael A. Strauss, G. R. Knapp, Matthew J. Collinge, A. S. Mukadam, D. Koester, Alan Uomoto, D. J. Schlegel, Scott F. Anderson, J. Brinkmann, D. Q. Lamb, Donald P. Schneider, & Donald G. York.* 607, 426 (2004)

Radiative Transfer in the Refractive Atmospheres of Very Cool White Dwarfs. *P. M. Kowalski & D. Saumon.* 607, 970 (2004)

Thirty-Five New Pulsating DA White Dwarf Stars. *Anjum S. Mukadam, F. Mullally, R. E. Nather, D. E. Winget, Ted von Hippel, S. J. Kleinman, Atsuko Nitta, Jurek Krzesiński, S. O. Kepler, A. Kanaan, D. Koester, D. J. Sullivan, D. Homeier, S. E. Thompson, D. Reaves, C. Cotter, D. Slaughter, & J. Brinkmann.* 607, 982 (2004)

Detection of Nitrogen and Neon in the X-Ray Spectrum of GP Comae Berenices with XMM-Newton. *Tod E. Strohmayer.* 608, L53 (2004)

Direct Numerical Simulations of Type Ia Supernovae Flames. II. The Rayleigh-Taylor Instability. *J. B. Bell, M. S. Day, C. A. Rendleman, S. E. Woosley, & M. Zingale.* 608, 883 (2004)

Seismology of the Accreting White Dwarf in GW Librae. *Dean M. Townsley, Phil Arras, & Lars Bildsten.* 608, L105 (2004)

Mid-Infrared Observations of van Maanen 2: No Substellar Companion. *J. Farihi, E. E. Becklin, & B. A. Macintosh.* 608, L109 (2004)

STARS: WINDS, OUTFLOWS

An Explanation for Metallicity Effects on X-Ray Binary Properties. *Thomas J. Maccarone, Arunav Kundu, & Stephen E. Zepf.* 606, 430 (2004)

Magnetohydrodynamic Models of the Bipolar Knotty Jet in Henize 2-90. *Chin-Fei Lee & Raghendra Sahai.* 606, 483 (2004)

The Effective Temperatures of Hot Stars. II. The Early-O Types. *Miriam Garcia & Luciana Bianchi.* 606, 497 (2004)

A Transonic Collisionless Model of the Solar Wind. *I. Zouganelis, M. Maksimovic, N. Meyer-Vernet, H. Lamy, & K. Issautier.* 606, 542 (2004)

Relativistic Wind Bubbles and Afterglow Signatures. *Z. G. Dai.* 606, 1000 (2004)

Using VLBI to Probe the Orion KL Outflow on AU Scales. *Sheperd S. Doeleman, Colin J. Lonsdale, Paul T. Kondratko, & C. Read Predmore.* 607, 361 (2004)

Terminal Velocities of Luminous, Early-Type Small Magellanic Cloud Stars. *C. J. Evans, D. J. Lennon, C. Trundle, S. R. Heap, & D. J. Lindler.* 607, 451 (2004)

Astrophysical Significance of Asymptotic Giant Branch Stellar Wind Energies Recorded in Meteoritic SiC Grains. *A. B. Verchovsky, I. P. Wright, & C. T. Pillinger.* 607, 611 (2004)

The Becklin-Neugebauer Object as a Runaway B Star, Ejected 4000 Years Ago from the θ^1 Orionis C System. *Jonathan C. Tan.* 607, L47 (2004)

A Search for TeV Gamma-Ray Emission from the PSR B1259—63/SS 2883 Binary System with the Cangaroo-II 10 m Telescope. *A. Kawachi, T. Naito, J. R. Patterson, P. G. Edwards, A. Asahara, G. V. Bicknell, R. W. Clay, R. Enomoto, S. Gunji, S. Hara, T. Hara, T. Hattori, Seiichi Hayashi, Shin'ichiro Hayashi, C. Itoh, S. Kabuki, F. Kajino, H. Katagiri, T. Kifune, L. Ksenofontov, H. Kubo, J. Kushida, Y. Matsubara, Y. Mizumoto, M. Mori, H. Moro, H. Muraishi, Y. Muraki, T. Nakase, D. Nishida, K. Nishijima, M. Ohishi, K. Okumura, R. J. Protheroe, K. Sakurazawa, D. L. Swaby, T. Tanimori, F. Tokanai, K. Tsuchiya, H. Tsunoo, T. Uchida, A. Watanabe, S. Watanabe, S. Yanagita, T. Yoshida, & T. Yoshikoshi.* 607, 949 (2004)

GSH 23.0—0.7+117: A Neutral Hydrogen Shell in the Inner Galaxy. *J. M. Stil, A. R. Taylor, P. G. Martin, T. A. Rothwell, J. M. Dickey, & N. M. McClure-Griffiths.* 608, 297 (2004)

Constraining the X-Ray Luminosities of Asymptotic Giant Branch Stars: TX Camelopardalis and T Cassiopeia. *Joel H. Kastner & Noam Soker.* 608, 978 (2004)

STARS: WOLF-RAYET

Magnetic Influence on the Stability of Luminous Stellar Envelopes. *Richard B. Stothers.* 607, 999 (2004)

STELLAR DYNAMICS

The Effect of Gravitational-Wave Recoil on the Demography of Massive Black Holes. *Piero Madau & Eliot Quataert.* 606, L17 (2004)

A Self-Consistent Study of Triaxial Black Hole Nuclei. *M. Y. Poon & David Merritt.* 606, 774 (2004)

Chaotic Loss Cones and Black Hole Fueling. *David Merritt & M. Y. Poon.* 606, 788 (2004)

The Pattern Speeds of M51, M83, and NGC 6946 Using CO and the Tremaine-Weinberg Method. *P. Zimmer, R. J. Rand, & J. T. McGraw.* 607, 285 (2004)

Dynamical Friction on Galactic Center Star Clusters with an Intermediate-Mass Black Hole. *Sungsoo S. Kim, Donald F. Figer, & Mark Morris.* 607, L123 (2004)

SUBMILLIMETER

The Faint Counterparts of Max-Planck-Millimeter-Bolometer (MAMBO) Millimeter Sources near the New Technology Telescope Deep Field. *H. Dannerbauer, M. D. Lehnert, D. Lutz, L. Tacconi, F. Bertoldi, C. Carilli, R. Genzel, & K. M. Menten.* 606, 664 (2004)

SUN: ABUNDANCES

Abundances of Heavy and Ultraheavy Ions in ^3He -rich Solar Flares. *G. M. Mason, J. E. Mazur, J. R. Dwyer, J. R. Jokipii, R. E. Gold, & S. M. Krimigis.* 606, 555 (2004)

Constraining Solar Abundances Using Helioseismology. *Sarban Basu & H. M. Antia.* 606, L85 (2004)

- Reconnection of Magnetic Field Lines near the Solar Surface during Coronal Mass Ejection Propagation. *A. A. Reinard & L. A. Fisk*. 608, 533 (2004)
- SUN: ACTIVITY**
- Response of the Corona to Magnetic Activity in Underlying Plage Regions. *M. Ryutova & R. Shine*. 606, 571 (2004)
- Multiwavelength Analysis of an X1.6 Flare of 2001 October 19. *J. P. Li & M. D. Ding*. 606, 583 (2004)
- Densities and Velocities in Fast Coronal Mass Ejections: Radiative Pumping of the O VI Doublet. *J. C. Raymond & A. Ciaravella*. 606, L159 (2004)
- Traces of the Dynamic Current Sheet during a Solar Flare. *Haisheng Ji, Haimin Wang, Philip R. Goode, Yunchun Jiang, & V. Yurchyshyn*. 607, L55 (2004)
- Near-Infrared Observations at 1.56 Microns of the 2003 October 29 X10 White-Light Flare. *Yan Xu, Wenda Cao, Chang Liu, Guo Yang, Jiong Qiu, Ju Jing, Carsten Denker, & Haimin Wang*. 607, L131 (2004)
- Activity-Related Changes in Local Solar Acoustic Mode Parameters from the Michelson Doppler Imager and Global Oscillations Network Group. *R. Howe, R. W. Komm, F. Hill, D. A. Haber, & B. W. Hindman*. 608, 562 (2004)
- Ulysses* Observations of the Magnetic Connectivity between Coronal Mass Ejections and the Sun. *Pete Riley, J. T. Gosling, & N. U. Crooker*. 608, 1100 (2004)
- SUN: ATMOSPHERE**
- On the Formation of the Resonance Lines of Helium in the Sun. *Anna Pietarila & Philip G. Judge*. 606, 1239 (2004)
- On the Formation of Extreme-Ultraviolet Helium Lines in the Sun: Analysis of SOHO Data. *Philip G. Judge & Anna Pietarila*. 606, 1258 (2004)
- SUN: ATMOSPHERIC MOTIONS**
- The Spectrum of the Solar Supergranulation: Multiple Nonwave Components. *Mark P. Rast, Jason P. Lisle, & Juri Toomre*. 608, 1156 (2004)
- Persistent North-South Alignment of the Solar Supergranulation. *Jason P. Lisle, Mark P. Rast, & Juri Toomre*. 608, 1167 (2004)
- SUN: CHROMOSPHERE**
- Promises and Pitfalls of Solar H α Zeeman Spectropolarimetry. *K. S. Balasubramaniam, E. B. Christopoulou, & H. Uitenbroek*. 606, 1233 (2004)
- On the Formation of the Resonance Lines of Helium in the Sun. *Anna Pietarila & Philip G. Judge*. 606, 1239 (2004)
- On the Formation of Extreme-Ultraviolet Helium Lines in the Sun: Analysis of SOHO Data. *Philip G. Judge & Anna Pietarila*. 606, 1258 (2004)
- A Comparison of CME-Associated Atmospheric Waves Observed in Coronal (Fe XII 195 Å) and Chromospheric (He I 10830 Å) Lines. *Holly R. Gilbert, Thomas E. Holzer, Barbara J. Thompson, & Joan T. Burkepile*. 607, 540 (2004)
- SUN: CORONA**
- A Transonic Collisionless Model of the Solar Wind. *I. Zouganelis, M. Maksimovic, N. Meyer-Vernet, H. Lamy, & K. Issautier*. 606, 542 (2004)
- Photospheric and Coronal Currents in Solar Active Regions. *Andrew B. Burnette, Richard C. Canfield, & Alexei A. Pevtsov*. 606, 565 (2004)
- Response of the Corona to Magnetic Activity in Underlying Plage Regions. *M. Ryutova & R. Shine*. 606, 571 (2004)
- Magnetic-Field Confinement in the Solar Corona. I. Force-free Magnetic Fields. *N. Flyer, B. Fornberg, S. Thomas, & B. C. Low*. 606, 1210 (2004)
- Damping of Coronal Loop Oscillations: Calculation of Resonantly Damped Kink Oscillations of One-Dimensional Nonuniform Loops. *T. Van Doorselaere, J. Andries, S. Poedts, & M. Goossens*. 606, 1223 (2004)
- Radio Observations of Rapid Acceleration in a Slow Filament Eruption/Fast Coronal Mass Ejection Event. *M. R. Kundu, S. M. White, V. I. Garaimov, P. K. Manoharan, P. Subramanian, S. Ananthakrishnan, & P. Janardhan*. 607, 530 (2004)
- A Comparison of CME-Associated Atmospheric Waves Observed in Coronal (Fe XII 195 Å) and Chromospheric (He I 10830 Å) Lines. *Holly R. Gilbert, Thomas E. Holzer, Barbara J. Thompson, & Joan T. Burkepile*. 607, 540 (2004)
- Atomic Data and Spectral Line Intensities for Ca VIII. *E. Landi, P. J. Storey, & C. J. Zeppen*. 607, 640 (2004)
- Electrostatic Decay of Beam-generated Plasma Turbulence. *Alberto M. Vásquez & Daniel O. Gómez*. 607, 1024 (2004)
- Energy Buildup of Multipolar Magnetic Fields by Photospheric Shear Motion. *Y. Q. Hu*. 607, 1032 (2004)
- Newly Identified Forbidden Transitions within the Ground Configuration of Ions of Very Low Abundance P, Cl, K, and Co. *U. Feldman, E. Landi, & W. Curdt*. 607, 1039 (2004)
- Reconnection of Magnetic Field Lines near the Solar Surface during Coronal Mass Ejection Propagation. *A. A. Reinard & L. A. Fisk*. 608, 533 (2004)
- Existence of Nanoparticle Dust Grains in the Inner Solar Corona? *Jagdev Singh, Takashi Sakurai, Kiyoshi Ichimoto, Masaaki Hagino, & Tetsuya T. Yamamoto*. 608, L69 (2004)
- Ulysses* Observations of the Magnetic Connectivity between Coronal Mass Ejections and the Sun. *Pete Riley, J. T. Gosling, & N. U. Crooker*. 608, 1100 (2004)
- A Comparison of the Minimum Current Corona to a Magnetohydrodynamic Simulation of Quasi-Static Coronal Evolution. *D. W. Longcope & T. Magara*. 608, 1106 (2004)
- Filament Oscillations and Moreton Waves Associated with EIT Waves. *Takenori J. Okamoto, Hidekazu Nakai, Atsushi Keiyama, Noriyuki Narukage, Satoru Ueno, Reizaburo Kitai, Hiroki Kurokawa, & Kazunari Shibata*. 608, 1124 (2004)
- Models for Solar Magnetic Loops. III. Dynamic Models and Coronal Diagnostic Spectrometer Observations. *E. Landi & M. Landini*. 608, 1133 (2004)
- SUN: CORONAL MASS EJECTIONS (CMES)**
- Magnetic-Field Confinement in the Solar Corona. I. Force-free Magnetic Fields. *N. Flyer, B. Fornberg, S. Thomas, & B. C. Low*. 606, 1210 (2004)
- Densities and Velocities in Fast Coronal Mass Ejections: Radiative Pumping of the O VI Doublet. *J. C. Raymond & A. Ciaravella*. 606, L159 (2004)
- Reconnection of Magnetic Field Lines near the Solar Surface during Coronal Mass Ejection Propagation. *A. A. Reinard & L. A. Fisk*. 608, 533 (2004)
- Ulysses* Observations of the Magnetic Connectivity between Coronal Mass Ejections and the Sun. *Pete Riley, J. T. Gosling, & N. U. Crooker*. 608, 1100 (2004)
- SUN: FACULAE, PLAGES**
- On the Origins of Solar Faculae. *C. U. Keller, M. Schüssler, A. Vögler, & V. Zakharov*. 607, L59 (2004)
- SUN: FILAMENTS**
- Filament Oscillations and Moreton Waves Associated with EIT Waves. *Takenori J. Okamoto, Hidekazu Nakai, Atsushi Keiyama, Noriyuki Narukage, Satoru Ueno, Reizaburo Kitai, Hiroki Kurokawa, & Kazunari Shibata*. 608, 1124 (2004)
- Statistical Properties of Superpenumbral Whorls around Sunspots. *K. S. Balasubramaniam, Alexei Pevtsov, & Joey Rogers*. 608, 1148 (2004)
- SUN: FLARES**
- Abundances of Heavy and Ultraheavy Ions in ³He-rich Solar Flares. *G. M. Mason, J. E. Mazur, J. R. Dwyer, J. R. Jokipii, R. E. Gold, & S. M. Krimigis*. 606, 555 (2004)
- Multiwavelength Analysis of an X1.6 Flare of 2001 October 19. *J. P. Li & M. D. Ding*. 606, 583 (2004)
- Radio Observations of Rapid Acceleration in a Slow Filament Eruption/Fast Coronal Mass Ejection Event. *M. R. Kundu, S. M. White, V. I. Garaimov, P. K. Manoharan, P. Subramanian, S. Ananthakrishnan, & P. Janardhan*. 607, 530 (2004)
- Traces of the Dynamic Current Sheet during a Solar Flare. *Haisheng Ji, Haimin Wang, Philip R. Goode, Yunchun Jiang, & V. Yurchyshyn*. 607, L55 (2004)
- Near-Infrared Observations at 1.56 Microns of the 2003 October 29 X10 White-Light Flare. *Yan Xu, Wenda Cao, Chang Liu, Guo Yang, Jiong Qiu, Ju Jing, Carsten Denker, & Haimin Wang*. 607, L131 (2004)
- Particle Acceleration in an Evolving Network of Unstable Current Sheets. *Loukas Vlahos, Heinz Isliker, & Fabio Lepreti*. 608, 540 (2004)
- Pulsed Particle Injection in a Reconnection-Driven Dynamic Trap Model in Solar Flares. *Markus J. Aschwanden*. 608, 554 (2004)
- Filament Oscillations and Moreton Waves Associated with EIT Waves. *Takenori J. Okamoto, Hidekazu Nakai, Atsushi Keiyama, Noriyuki Narukage, Satoru Ueno, Reizaburo Kitai, Hiroki Kurokawa, & Kazunari Shibata*. 608, 1124 (2004)
- SUN: GRANULATION**
- The Spectrum of the Solar Supergranulation: Multiple Nonwave Components. *Mark P. Rast, Jason P. Lisle, & Juri Toomre*. 608, 1156 (2004)
- Persistent North-South Alignment of the Solar Supergranulation. *Jason P. Lisle, Mark P. Rast, & Juri Toomre*. 608, 1167 (2004)

SUN: HELIOSEISMOLOGY

- Three-dimensional Inversion of Time-Distance Helioseismology Data: Ray-Path and Fresnel-Zone Approximations. *S. Couvidat, A. C. Birch, A. G. Kosovichev, & J. Zhao.* 607, 554 (2004)
- Overshoot at the Base of the Solar Convection Zone: A Semianalytical Approach. *M. Rempel.* 607, 1046 (2004)
- On the Relationship between the Rotational Velocity and the Field Strength of Solar Magnetic Elements. *Junwei Zhao, Alexander G. Kosovichev, & Thomas L. Duvall, Jr.* 607, L135 (2004)
- Activity-Related Changes in Local Solar Acoustic Mode Parameters from the Michelson Doppler Imager and Global Oscillations Network Group. *R. Howe, R. W. Komm, F. Hill, D. A. Haber, & B. W. Hindman.* 608, 562 (2004)
- Sensitivity of Acoustic Wave Travel Times to Sound-Speed Perturbations in the Solar Interior. *A. C. Birch, A. G. Kosovichev, & T. L. Duvall, Jr.* 608, 580 (2004)

SUN: INFRARED

- Near-Infrared Observations at 1.56 Microns of the 2003 October 29 X10 White-Light Flare. *Yan Xu, Wenda Cao, Chang Liu, Guo Yang, Jiong Qiu, Ju Jing, Carsten Denker, & Haimin Wang.* 607, L131 (2004)
- Existence of Nanoparticle Dust Grains in the Inner Solar Corona? *Jagdev Singh, Takashi Sakurai, Kiyoshi Ichimoto, Masaaki Hagino, & Tetsuya T. Yamamoto.* 608, L69 (2004)

SUN: INTERIOR

- Constraining Solar Abundances Using Helioseismology. *Sarbani Basu & H. M. Antia.* 606, L85 (2004)
- The Sun's Reversing Flows and Heat Spike as Caused by *g*-Modes. *Charles L. Wolff & Hans G. Mayr.* 606, L163 (2004)
- Three-dimensional Inversion of Time-Distance Helioseismology Data: Ray-Path and Fresnel-Zone Approximations. *S. Couvidat, A. C. Birch, A. G. Kosovichev, & J. Zhao.* 607, 554 (2004)
- Overshoot at the Base of the Solar Convection Zone: A Semianalytical Approach. *M. Rempel.* 607, 1046 (2004)
- Sensitivity of Acoustic Wave Travel Times to Sound-Speed Perturbations in the Solar Interior. *A. C. Birch, A. G. Kosovichev, & T. L. Duvall, Jr.* 608, 580 (2004)

SUN: MAGNETIC FIELDS

- Photospheric and Coronal Currents in Solar Active Regions. *Andrew B. Burnette, Richard C. Canfield, & Alexei A. Pevtsov.* 606, 565 (2004)
- Response of the Corona to Magnetic Activity in Underlying Plage Regions. *M. Ryutova & R. Shine.* 606, 571 (2004)
- Probing Heliospheric Turbulence with Cosmic Rays: Theory. *Curt A. de Koning & John W. Bieber.* 606, 1200 (2004)
- Magnetic-Field Confinement in the Solar Corona. I. Force-free Magnetic Fields. *N. Flyer, B. Fornberg, S. Thomas, & B. C. Low.* 606, 1210 (2004)
- Damping of Coronal Loop Oscillations: Calculation of Resonantly Damped Kink Oscillations of One-Dimensional Nonuniform Loops. *T. Van Doorselaere, J. Andries, S. Poedts, & M. Goossens.* 606, 1223 (2004)
- Promises and Pitfalls of Solar Ho Zeeman Spectropolarimetry. *K. S. Balasubramaniam, E. B. Christopoulou, & H. Uitenbroek.* 606, 1233 (2004)
- Traces of the Dynamic Current Sheet during a Solar Flare. *Haisheng Ji, Haimin Wang, Philip R. Goode, Yunchun Jiang, & V. Yurchyshyn.* 607, L55 (2004)
- On the Origins of Solar Faculae. *C. U. Keller, M. Schüssler, A. Vögler, & V. Zakharov.* 607, L59 (2004)
- Energy Buildup of Multipolar Magnetic Fields by Photospheric Shear Motion. *Y. Q. Hu.* 607, 1032 (2004)
- On the Relationship between the Rotational Velocity and the Field Strength of Solar Magnetic Elements. *Junwei Zhao, Alexander G. Kosovichev, & Thomas L. Duvall, Jr.* 607, L135 (2004)
- Reconnection of Magnetic Field Lines near the Solar Surface during Coronal Mass Ejection Propagation. *A. A. Reinard & L. A. Fisk.* 608, 533 (2004)
- Pulsed Particle Injection in a Reconnection-Driven Dynamic Trap Model in Solar Flares. *Markus J. Aschwanden.* 608, 554 (2004)
- Activity-Related Changes in Local Solar Acoustic Mode Parameters from the Michelson Doppler Imager and Global Oscillations Network Group. *R. Howe, R. W. Komm, F. Hill, D. A. Haber, & B. W. Hindman.* 608, 562 (2004)
- Ulysses Observations of the Magnetic Connectivity between Coronal Mass Ejections and the Sun. *Pete Riley, J. T. Gosling, & N. U. Crooker.* 608, 1100 (2004)

- A Comparison of the Minimum Current Corona to a Magnetohydrodynamic Simulation of Quasi-Static Coronal Evolution. *D. W. Longcope & T. Magara.* 608, 1106 (2004)

- Models for Solar Magnetic Loops. III. Dynamic Models and Coronal Diagnostic Spectrometer Observations. *E. Landi & M. Landini.* 608, 1133 (2004)

- Statistical Properties of Superpenumbral Whorls around Sunspots. *K. S. Balasubramaniam, Alexei Pevtsov, & Joey Rogers.* 608, 1148 (2004)

SUN: OSCILLATIONS

- Constraining Solar Abundances Using Helioseismology. *Sarbani Basu & H. M. Antia.* 606, L85 (2004)
- The Sun's Reversing Flows and Heat Spike as Caused by *g*-Modes. *Charles L. Wolff & Hans G. Mayr.* 606, L163 (2004)
- Three-dimensional Inversion of Time-Distance Helioseismology Data: Ray-Path and Fresnel-Zone Approximations. *S. Couvidat, A. C. Birch, A. G. Kosovichev, & J. Zhao.* 607, 554 (2004)
- Activity-Related Changes in Local Solar Acoustic Mode Parameters from the Michelson Doppler Imager and Global Oscillations Network Group. *R. Howe, R. W. Komm, F. Hill, D. A. Haber, & B. W. Hindman.* 608, 562 (2004)
- Sensitivity of Acoustic Wave Travel Times to Sound-Speed Perturbations in the Solar Interior. *A. C. Birch, A. G. Kosovichev, & T. L. Duvall, Jr.* 608, 580 (2004)
- Filament Oscillations and Moreton Waves Associated with EIT Waves. *Takenori J. Okamoto, Hidekazu Nakai, Atsushi Keiyama, Noriyuki Narukage, Satoru Ueno, Reizaburo Kitai, Hiroki Kurokawa, & Kazunari Shibata.* 608, 1124 (2004)
- The Spectrum of the Solar Supergranulation: Multiple Nonwave Components. *Mark P. Rast, Jason P. Lisle, & Juri Toomre.* 608, 1156 (2004)

SUN: PARTICLE EMISSION

- Particle Acceleration in an Evolving Network of Unstable Current Sheets. *Loukas Vlahos, Heinz Isliker, & Fabio Lepreti.* 608, 540 (2004)
- Pulsed Particle Injection in a Reconnection-Driven Dynamic Trap Model in Solar Flares. *Markus J. Aschwanden.* 608, 554 (2004)

SUN: PHOTOSPHERE

- Response of the Corona to Magnetic Activity in Underlying Plage Regions. *M. Ryutova & R. Shine.* 606, 571 (2004)
- On the Origins of Solar Faculae. *C. U. Keller, M. Schüssler, A. Vögler, & V. Zakharov.* 607, L59 (2004)
- Near-Infrared Observations at 1.56 Microns of the 2003 October 29 X10 White-Light Flare. *Yan Xu, Wenda Cao, Chang Liu, Guo Yang, Jiong Qiu, Ju Jing, Carsten Denker, & Haimin Wang.* 607, L131 (2004)
- Statistical Properties of Superpenumbral Whorls around Sunspots. *K. S. Balasubramaniam, Alexei Pevtsov, & Joey Rogers.* 608, 1148 (2004)
- The Spectrum of the Solar Supergranulation: Multiple Nonwave Components. *Mark P. Rast, Jason P. Lisle, & Juri Toomre.* 608, 1156 (2004)
- Persistent North-South Alignment of the Solar Supergranulation. *Jason P. Lisle, Mark P. Rast, & Juri Toomre.* 608, 1167 (2004)

SUN: RADIO RADIATION

- Radio Observations of Rapid Acceleration in a Slow Filament Eruption/Fast Coronal Mass Ejection Event. *M. R. Kundu, S. M. White, V. I. Garaimov, P. K. Manoharan, P. Subramanian, S. Ananthakrishnan, & P. Janardhan.* 607, 530 (2004)
- Electrostatic Decay of Beam-generated Plasma Turbulence. *Alberto M. Vásquez & Daniel O. Gómez.* 607, 1024 (2004)

SUN: ROTATION

- Local Axisymmetric Diffusive Stability of Weakly Magnetized, Differentially Rotating, Stratified Fluids. *Kristen Menou, Steven A. Balbus, & Henk C. Spruit.* 607, 564 (2004)
- On the Relationship between the Rotational Velocity and the Field Strength of Solar Magnetic Elements. *Junwei Zhao, Alexander G. Kosovichev, & Thomas L. Duvall, Jr.* 607, L135 (2004)

SUN: SOLAR-TERRESTRIAL RELATIONS

- Modulation of Cosmic-Ray Electrons in a Nonspherical and Irregular Heliosphere. *S. E. S. Ferreira, M. S. Potgieter, & K. Scherer.* 607, 1014 (2004)

SUN: SOLAR WIND

A Transonic Collisionless Model of the Solar Wind. *I. Zouganelis, M. Maksimovic, N. Meyer-Vernet, H. Lamy, & K. Issautier.* 606, 542 (2004)

Abundances of Heavy and Ultraheavy Ions in ³He-rich Solar Flares. *G. M. Mason, J. E. Mazur, J. R. Dwyer, J. R. Jokipii, R. E. Gold, & S. M. Krimigis.* 606, 555 (2004)

Catching Some Sun: Probing the Solar Wind with Cometary X-Ray and Far-Ultraviolet Emission. *D. Bodewits, Z. Juhász, R. Hoekstra, & A. G. M. Tielens.* 606, L81 (2004)

Probing Heliospheric Turbulence with Cosmic Rays: Theory. *Curt A. de Koning & John W. Bieber.* 606, 1200 (2004)

Chandra Observations of the “Dark” Moon and Geocoronal Solar Wind Charge Transfer. *B. J. Wargelin, M. Markevitch, M. Juda, V. Kharchenko, R. Edgar, & A. Dalgarno.* 607, 596 (2004)

Modulation of Cosmic-Ray Electrons in a Nonspherical and Irregular Heliosphere. *S. E. S. Ferreira, M. S. Potgieter, & K. Scherer.* 607, 1014 (2004)

Ulysses Observations of the Magnetic Connectivity between Coronal Mass Ejections and the Sun. *Pete Riley, J. T. Gosling, & N. U. Crooker.* 608, 1100 (2004)

SUN: SUNSPOTS

Statistical Properties of Superpenumbral Whorls around Sunspots. *K. S. Balasubramaniam, Alexei Pevtsov, & Joey Rogers.* 608, 1148 (2004)

SUN: TRANSITION REGION

Response of the Corona to Magnetic Activity in Underlying Plage Regions. *M. Ryutova & R. Shine.* 606, 571 (2004)

On the Formation of the Resonance Lines of Helium in the Sun. *Anna Pietarila & Philip G. Judge.* 606, 1239 (2004)

On the Formation of Extreme-Ultraviolet Helium Lines in the Sun: Analysis of SOHO Data. *Philip G. Judge & Anna Pietarila.* 606, 1258 (2004)

SUN: UV RADIATION

Response of the Corona to Magnetic Activity in Underlying Plage Regions. *M. Ryutova & R. Shine.* 606, 571 (2004)

On the Formation of the Resonance Lines of Helium in the Sun. *Anna Pietarila & Philip G. Judge.* 606, 1239 (2004)

Newly Identified Forbidden Transitions within the Ground Configuration of Ions of Very Low Abundance P, Cl, K, and Co. *U. Feldman, E. Landi, & W. Curdt.* 607, 1039 (2004)

SUN: X-RAYS, GAMMA RAYS

Photospheric and Coronal Currents in Solar Active Regions. *Andrew B. Burnette, Richard C. Canfield, & Alexei A. Pevtsov.* 606, 565 (2004)

Pulsed Particle Injection in a Reconnection-Driven Dynamic Trap Model in Solar Flares. *Markus J. Aschwanden.* 608, 554 (2004)

SURVEYS

New Quasars Detected via Variability in the QUEST1 Survey. *A. W. Rengstorf, S. L. Mufson, C. Abad, B. Adams, P. Andrews, C. Bailyn, C. Baltay, A. Bongiovanni, C. Briceño, G. Bruzual, P. Coppi, F. Della Prugna, W. Emmet, I. Ferrín, F. Fuenmayor, M. Gebhard, J. Hernández, R. K. Honeycutt, G. Magris, J. Musser, O. Naranjo, A. Oemler, P. Rosenzweig, C. N. Sabbey, Ge. Sánchez, Gu. Sánchez, B. Schaefer, H. Schenker, J. Sinnott, J. A. Snyder, S. Sofia, J. Stock, W. van Altena, & A. K. Vivas.* 606, 741 (2004)

FIRST-2MASS Sources below the APM Detection Threshold: A Population of Highly Reddened Quasars. *Eilat Glikman, Michael D. Gregg, Mark Lacy, David J. Helfand, Robert H. Becker, & Richard L. White.* 607, 60 (2004)

Spectroscopic Confirmation of the Cl 1604 Supercluster at $z \sim 0.9$. *R. R. Gal & L. M. Lubin.* 607, L1 (2004)

The First IBIS/ISGRI Soft Gamma-Ray Galactic Plane Survey Catalog. *A. J. Bird, E. J. Barlow, L. Bassani, A. Bazzano, A. Bodaghe, F. Capitanio, M. Cocchi, M. Del Santo, A. J. Dean, A. B. Hill, F. Lebrun, G. Malaguti, A. Malizia, R. Much, S. E. Shaw, J. B. Stephen, R. Terrier, P. Ubertini, & R. Walter.* 607, L33 (2004)

Hubble Space Telescope Imaging and Keck Spectroscopy of $z \approx 6$ *i*-Band Dropout Galaxies in the Advanced Camera for Surveys GOODS Fields. *Elizabeth R. Stanway, Andrew J. Bunker, Richard G. McMahon, Richard S. Ellis, Tommaso Treu, & Patrick J. McCarthy.* 607, 704 (2004)

The X-Ray-derived Cosmological Star Formation History and the Galaxy X-Ray Luminosity Functions in the Chandra Deep Fields North and South. *Colin Norman, Andrew Ptak, Ann Hornschemeier, Guenther Hasinger, Jacqueline Bergeron, Andrea Comastri, Riccardo Giacconi, Roberto Gilli, Karl Glazebrook, Tim Heckman, Lisa Kewley, Piero*

Ranalli, Piero Rosati, Gyula Szokoly, Paolo Tozzi, JunXian Wang, Wei Zheng, & Andrew Zirm. 607, 721 (2004)

The Clustering of XMM-Newton Hard X-Ray Sources. *S. Basilakos, A. Georgakakis, M. Plionis, & I. Georgantopoulos.* 607, L79 (2004)

TeV Gamma-Ray Survey of the Northern Hemisphere Sky Using the Milagro Observatory. *R. Atkins, W. Benbow, D. Berley, E. Blaufuss, J. Bussions, D. G. Coyne, T. DeYoung, B. L. Dingus, D. E. Dorfan, R. W. Ellsworth, L. Fleyscher, R. Fleyscher, G. Gisler, M. M. Gonzalez, J. A. Goodman, T. J. Haines, E. Hays, C. M. Hoffman, L. A. Kelley, C. P. Lansdell, J. T. Linnemann, J. E. McEnery, R. S. Miller, A. I. Mincer, M. F. Morales, P. Nemethy, D. Noyes, J. M. Ryan, F. W. Samuelson, A. Shoup, G. Sennis, A. J. Smith, G. W. Sullivan, D. A. Williams, S. Westerhoff, M. E. Wilson, X. W. Xu, & G. B. Yodh.* 608, 680 (2004)

The Munich Near-Infrared Cluster Survey (MUNICS). VI. The Stellar Masses of *K*-Band-Selected Field Galaxies to $z \sim 1.2$. *N. Drory, R. Bender, G. Feulner, U. Hopp, C. Maraston, J. Snigula, & G. J. Hill.* 608, 742 (2004)

Nearly 5000 Distant Early-Type Galaxies in COMBO-17: A Red Sequence and Its Evolution since $z \sim 1$. *Eric F. Bell, Christian Wolf, Klaus Meisenheimer, Hans-Walter Rix, Andrea Borch, Simon Dye, Martina Kleinheinrich, Lutz Wisotzki, & Daniel H. McIntosh.* 608, 752 (2004)

Search for Cosmic-Ray Point Sources with KASCADE. *T. Antoni, W. D. Apel, A. F. Badea, K. Bekk, A. Bercuci, H. Blümer, H. Bozdog, I. M. Brancus, C. Büttner, K. Daumiller, P. Doll, R. Engel, J. Engler, F. Fessler, H. J. Gils, R. Glasstetter, A. Haungs, D. Heck, J. R. Hörandel, K. H. Kampert, H. O. Klages, G. Maier, H. J. Mathes, H. J. Mayer, J. Milke, M. Müller, R. Obenland, J. Oehlschläger, S. Ostapchenko, M. Petcu, H. Rebel, A. Risse, M. Risse, M. Roth, G. Schatz, H. Schieler, J. Scholz, T. Thouw, H. Ulrich, J. van Buren, A. Vardanyan, A. Weindl, J. Wochele, & J. Zabierowski.* 608, 865 (2004)

TECHNIQUES: HIGH ANGULAR RESOLUTION

Observational Completeness. *Robert A. Brown.* 607, 1003 (2004)

TECHNIQUES: INTERFEROMETRIC

Massive Molecular Outflows at High Spatial Resolution. *H. Beuther, P. Schilke, & F. Guth.* 608, 330 (2004)

TECHNIQUES: PHOTOMETRIC

Thirty-Five New Pulsating DA White Dwarf Stars. *Anjum S. Mukadam, F. Mullally, R. E. Nather, D. E. Winget, Ted von Hippel, S. J. Kleinman, Atsuko Nitta, Jurek Krzesinski, S. O. Kepler, A. Kanaan, D. Koester, D. J. Sullivan, D. Homeier, S. E. Thompson, D. Reaves, C. Cotter, D. Slaughter, & J. Brinkmann.* 607, 982 (2004)

Probing the Red Giant Branch Phase Transition: Near-Infrared Photometry of Six Intermediate-Age Large Magellanic Cloud Clusters. *Francesco R. Ferraro, Livia Origlia, Vincenzo Testa, & Claudia Maraston.* 608, 772 (2004)

TECHNIQUES: POLARIMETRIC

Promises and Pitfalls of Solar H α Zeeman Spectropolarimetry. *K. S. Balasubramaniam, E. B. Christopoulou, & H. Uitenbroek.* 606, 1233 (2004)

TECHNIQUES: RADIAL VELOCITIES

H I Absorption of Polarized Emission: A New Technique for Determining Kinematic Distances to Galactic Supernova Remnants. *R. Kothes, T. L. Landecker, & M. Wolleben.* 607, 855 (2004)

TECHNIQUES: SPECTROSCOPIC

Missing Massive Stars in Starbursts: Stellar Temperature Diagnostics and the Initial Mass Function. *J. R. Rigby & G. H. Rieke.* 606, 237 (2004)

Measurements of the Singly Ionized Oxygen Auroral Doublet Lines $\lambda\lambda 7320, 7330$ Using High-Resolution Sky Spectra. *Brian D. Sharpee, Tom G. Slanger, David L. Huestis, & Philip C. Cosby.* 606, 605 (2004)

First Evidence of Circumstellar Disks around Blue Straggler Stars. *Orsola De Marco, Thierry Lanz, John A. Ouellette, David Zurek, & Michael M. Shara.* 606, L151 (2004)

Using the Ultraviolet and Visible Spectrum of Comet 122P/de Vico to Identify the Parent Molecule CS₂. *William M. Jackson, Alessandra Scodinu, Dadong Xu, & Anita L. Cochran.* 607, L139 (2004)

High-Resolution X-Ray Spectroscopy of the Fe K Complex in IC 4329A. *Barry McKernan & Tahir Yaqoob.* 608, 157 (2004)

TURBULENCE

- Chondrule Formation and Protoplanetary Disk Heating by Current Sheets in Nonideal Magnetohydrodynamic Turbulence. *M. K. Ryan Joung, Mordecai-Mark Mac Low, & Denton S. Ebel.* 606, 532 (2004)
- The Global Baroclinic Instability in Accretion Disks. II. Local Linear Analysis. *Hubert Klahr.* 606, 1070 (2004)
- Probing Heliospheric Turbulence with Cosmic Rays: Theory. *Curt A. de Koning & John W. Bieber.* 606, 1200 (2004)
- Local Axisymmetric Diffusive Stability of Weakly Magnetized, Differentially Rotating, Stratified Fluids. *Kristen Menou, Steven A. Balbus, & Henk C. Spruit.* 607, 564 (2004)
- Magnetic Influence on the Stability of Luminous Stellar Envelopes. *Richard B. Stothers.* 607, 999 (2004)
- Electrostatic Decay of Beam-generated Plasma Turbulence. *Alberto M. Vásquez & Daniel O. Gómez.* 607, 1024 (2004)
- Type I Planetary Migration with Magnetohydrodynamic Turbulence. *Gregory Laughlin, Adriane Steinacker, & Fred C. Adams.* 608, 489 (2004)

ULTRAVIOLET: GALAXIES

- A Search for Short-Timescale Microvariability in Active Galactic Nuclei In the Ultraviolet. *Joseph F. Dolan & L. Lee Clark.* 607, 84 (2004)
- Hubble Space Telescope Imaging and Keck Spectroscopy of $z \approx 6$ *i*-Band Dropout Galaxies in the Advanced Camera for Surveys GOODS Fields. *Elizabeth R. Stanway, Andrew J. Bunker, Richard G. McMahon, Richard S. Ellis, Tommaso Treu, & Patrick J. McCarthy.* 607, 704 (2004)

ULTRAVIOLET: ISM

- A Hot Envelope around the Southern Coalsack: X-Ray and Far-Ultraviolet Observations. *B-G Andersson, David C. Knauth, S. L. Snowden, R. L. Shelton, & Peter G. Wannier.* 606, 341 (2004)
- Far Ultraviolet Spectroscopic Explorer Observations of Highly Ionized Gas in the Vela Supernova Remnant. *Jonathan D. Slavin, Joy S. Nichols, & William P. Blair.* 606, 900 (2004)
- Discovery of an O vi-emitting Nebula around the Hot White Dwarf KPD 0005+5106. *Birgit Otte, W. Van Dyke Dixon, & Ravi Sankrit.* 606, L143 (2004)
- O vi, N v, and C iv in the Galactic Halo. II. Velocity-Resolved Observations with the Hubble Space Telescope and Far Ultraviolet Spectroscopic Explorer. *Remy Indebetouw & J. Michael Shull.* 607, 309 (2004)
- Fullerenes and Buckyonions in the Interstellar Medium. *Susana Iglesias-Groth.* 608, L37 (2004)

ULTRAVIOLET: SOLAR SYSTEM

- Catching Some Sun: Probing the Solar Wind with Cometary X-Ray and Far-Ultraviolet Emission. *D. Bodewits, Z. Juhász, R. Hoekstra, & A. G. G. M. Tielens.* 606, L81 (2004)

ULTRAVIOLET: STARS

- Boron Benchmarks for the Galactic Disk. *Ann Merchant Boesgaard, Elizabeth J. McGrath, David L. Lambert, & Katia Cunha.* 606, 306 (2004)
- The Effective Temperatures of Hot Stars. II. The Early-O Types. *Miriam Garcia & Luciana Bianchi.* 606, 497 (2004)
- The O vi and C iii Lines at 1032 and 977 Å in Hyades F Stars. *Erika Böhm-Vitense, Richard D. Robinson, & Kenneth G. Carpenter.* 606, 1174 (2004)
- The Far-Ultraviolet Spectra of TW Hydrae. II. Models of H₂ Fluorescence in a Disk. *Gregory J. Herczeg, Brian E. Wood, Jeffrey L. Linsky, Jeff A. Valenti, & Christopher M. Johns-Krull.* 607, 369 (2004)
- Terminal Velocities of Luminous, Early-Type Small Magellanic Cloud Stars. *C. J. Evans, D. J. Lennon, C. Trundle, S. R. Heap, & D. J. Lindler.* 607, 451 (2004)

WAVES

- Low-Mass Protoplanet Migration in T Tauri α -Disks. *Kristen Menou & Jeremy Goodman.* 606, 520 (2004)
- The Sun's Reversing Flows and Heat Spike as Caused by g-Modes. *Charles L. Wolff & Hans G. Mayr.* 606, L163 (2004)
- A Comparison of CME-Associated Atmospheric Waves Observed in Coronal (Fe xii 195 Å) and Chromospheric (He i 10830 Å) Lines. *Holly R. Gilbert, Thomas E. Holzer, Barbara J. Thompson, & Joan T. Burkepile.* 607, 540 (2004)
- Sensitivity of Acoustic Wave Travel Times to Sound-Speed Perturbations in the Solar Interior. *A. C. Birch, A. G. Kosovichev, & T. L. Duvall, Jr.* 608, 580 (2004)

X-RAYS: BINARIES

- The Statistical Properties of Galaxies Containing Ultraluminous X-Ray Objects. *A. Ptak & E. Colbert.* 606, 291 (2004)
- Diagnostics of Neutron Star and Black Hole X-Ray Binaries with X-Ray Shot Widths. *Hua Feng, T. P. Li, & S. N. Zhang.* 606, 424 (2004)
- An Explanation for Metallicity Effects on X-Ray Binary Properties. *Thomas J. Maccarone, Arunav Kundu, & Stephen E. Zepf.* 606, 430 (2004)
- Accretion onto Fast X-Ray Pulsars. *S. A. Rappaport, J. M. Fregeau, & H. Spruit.* 606, 436 (2004)
- The Harmonic Structure of High-Frequency Quasi-periodic Oscillations in Accreting Black Holes. *Jeremy D. Schnittman & Edmund Bertschinger.* 606, 1098 (2004)
- Constraining Alternate Models of Black Holes: Type I X-Ray Bursts on Accreting Fermion-Fermion and Boson-Fermion Stars. *Ye-Fei Yuan, Ramesh Narayan, & Martin J. Rees.* 606, 1112 (2004)
- Evidence of Black Hole Spin in GX 339–4: XMM-Newton/EPIC-pn and RXTE Spectroscopy of the Very High State. *J. M. Miller, A. C. Fabian, C. S. Reynolds, M. A. Nowak, J. Homan, M. J. Freyberg, M. Ehle, T. Belloni, R. Wijnands, M. van der Klis, P. A. Charles, & W. H. G. Lewin.* 606, L131 (2004)
- Fine-Tuning the Accretion Disk Clock in Hercules X-1. *M. Still & P. Boyd.* 606, L135 (2004)
- Revealing a Cool Accretion Disk in the Ultraluminous X-Ray Source M81 X-9 (Holmberg IX X-1): Evidence for an Intermediate-Mass Black Hole. *J. M. Miller, A. C. Fabian, & M. C. Miller.* 607, 931 (2004)
- Ultracompact Binaries as Bright X-Ray Sources in Elliptical Galaxies. *Lars Bildsten & Christopher J. Deloye.* 607, L119 (2004)
- An X-Ray Investigation of the NGC 346 Field in the Small Magellanic Cloud. III. XMM-Newton Data. *Yuël Nazé, Jean Manfroid, Ian R. Stevens, Michael F. Corcoran, & Aaron Flores.* 608, 208 (2004)
- Evolution of Spectral States of Aquila X-1 during the 2000 Outburst. *Dipankar Maitra & Charles D. Bailyn.* 608, 444 (2004)
- Detection of Nitrogen and Neon in the X-Ray Spectrum of GP Comae Berenices with XMM/Newton. *Tod E. Strohmayer.* 608, L53 (2004)
- The Discovery of Optical Bursts from MS 1603.6+2600 (UW Coronae Borealis). *R. I. Hynes, E. L. Robinson, & E. Jeffery.* 608, L101 (2004)

X-RAYS: BURSTS

- On the Nature of the Flux Variability during an Expansion Stage of a Type I X-Ray Burst: Constraints on Neutron Star Parameters for 4U 1820–30. *Nikolai Shaposhnikov & Lev Titarchuk.* 606, L57 (2004)
- Constraining Alternate Models of Black Holes: Type I X-Ray Bursts on Accreting Fermion-Fermion and Boson-Fermion Stars. *Ye-Fei Yuan, Ramesh Narayan, & Martin J. Rees.* 606, 1112 (2004)
- A Comprehensive Study of the X-Ray Bursts from the Magnetar Candidate 1E 2259+586. *Fotis P. Gavril, Victoria M. Kaspi, & Peter M. Woods.* 607, 959 (2004)
- The Nuclear Reaction Waiting Points: ²²Mg, ²⁶Si, ³⁰S, and ³⁴Ar and Bolometrically Double-peaked Type I X-Ray Bursts. *Jacob Lund Fisker, Friedrich-Karl Thielemann, & Michael Wiescher.* 608, L61 (2004)
- The Effect of Neutron Star Rotation on the Properties of Thermonuclear X-Ray Bursts. *Michael P. Muno, Duncan K. Galloway, & Deepto Chakrabarty.* 608, 930 (2004)
- The Discovery of Optical Bursts from MS 1603.6+2600 (UW Coronae Borealis). *R. I. Hynes, E. L. Robinson, & E. Jeffery.* 608, L101 (2004)

X-RAYS: DIFFUSE BACKGROUND

- X-Ray Evolution of Active Galactic Nuclei and Hierarchical Galaxy Formation. *N. Menci, F. Fiore, G. C. Perola, & A. Cavaliere.* 606, 58 (2004)
- Chandra Observations of the “Dark” Moon and Geocoronal Solar Wind Charge Transfer. *B. J. Wargelin, M. Markevitch, M. Juda, V. Kharchenko, R. Edgar, & A. Dalgarno.* 607, 596 (2004)
- The Clustering of XMM-Newton Hard X-Ray Sources. *S. Basilakos, A. Georgakakis, M. Plionis, & I. Georgantopoulos.* 607, L79 (2004)

X-RAYS: GALAXIES

- X-Ray Evolution of Active Galactic Nuclei and Hierarchical Galaxy Formation. *N. Menci, F. Fiore, G. C. Perola, & A. Cavaliere.* 606, 58 (2004)
- Chandra Observations of the Cloverleaf Quasar H1413+117: A Unique Laboratory for Microlensing Studies of a LoBAL Quasar. *G. Chartas, M. Eracleous, E. Agol, & S. C. Gallagher.* 606, 78 (2004)

- Relativistic O VIII Emission and Ionized Outflow in NGC 4051 Measured with *XMM-Newton*. P. M. Ogle, K. O. Mason, M. J. Page, N. J. Salvì, F. A. Cordova, I. M. McHardy, & W. C. Priedhorsky. 606, 151 (2004)
- Reprocessing of Soft X-Ray Emission Lines in Black Hole Accretion Disks. Christopher W. Mauche, Duane A. Liedahl, Benjamin F. Mathiesen, Mario A. Jimenez-Garate, & John C. Raymond. 606, 168 (2004)
- Testing Radiatively Inefficient Accretion Flow Theory: An *XMM-Newton* Observation of NGC 3998. A. Ptak, Y. Terashima, L. C. Ho, & E. Quataert. 606, 173 (2004)
- Chandra* Observations of the Three Most Metal Deficient Blue Compact Dwarf Galaxies Known in the Local Universe. SBS 0335–052, SBS 0335–052W, and I Zw 18. Trinh X. Thuan, Franz E. Bauer, Polichronis Papademos, & Yuri I. Izotov. 606, 213 (2004)
- A High Spatial Resolution X-Ray and H α Study of Hot Gas in the Halos of Star-Forming Disk Galaxies. II. Quantifying Supernova Feedback. David K. Strickland, Timothy M. Heckman, Edward J. M. Colbert, Charles G. Hoopes, & Kimberly A. Weaver. 606, 829 (2004)
- Stellar and Gaseous Abundances in M82. L. Origlia, P. Ranalli, A. Comastri, & R. Maiolino. 606, 862 (2004)
- Magnetohydrodynamic Simulations of the Formation of Cold Fronts in Clusters of Galaxies Including Heat Conduction. N. Asai, N. Fukuda, & R. Matsumoto. 606, L105 (2004)
- The X-Ray-derived Cosmological Star Formation History and the Galaxy X-Ray Luminosity Functions in the *Chandra* Deep Fields North and South. Colin Norman, Andrew Ptak, Ann Hornschemeier, Guenther Hasinger, Jacqueline Bergeron, Andrea Comastri, Riccardo Giacconi, Roberto Gilli, Karl Glazebrook, Tim Heckman, Lisa Kewley, Piero Ranalli, Piero Rosati, Gyula Szokoly, Paolo Tozzi, JunXian Wang, Wei Zheng, & Andrew Zirm. 607, 721 (2004)
- Iron K α Emission from the Low-Luminosity Active Galaxies M81 and NGC 4579. G. C. Dewangan, R. E. Griffiths, T. Di Matteo, & N. J. Church. 607, 788 (2004)
- On the Relationship between the Optical Emission-Line and X-Ray Luminosities in Seyfert 1 Galaxies. S. B. Kraemer, I. M. George, D. M. Crenshaw, & J. R. Gabel. 607, 794 (2004)
- A Systematic Study of Radio-induced X-Ray Cavities in Clusters, Groups, and Galaxies. L. Birzan, D. A. Rafferty, B. R. McNamara, M. W. Wise, & P. E. J. Nulsen. 607, 800 (2004)
- ROSAT and ASCA Observations of the Narrow-Line Seyfert 1 Galaxy RX J0136.9–3510: Blueshifted Fe K α Line and Extended Soft X-Ray Emission. Kajal K. Ghosh, Douglas A. Swartz, Allyn F. Tennant, Kinwah Wu, & Brian D. Ramsey. 607, L111 (2004)
- Ultracompact Binaries as Bright X-Ray Sources in Elliptical Galaxies. Lars Bildsten & Christopher J. Deloye. 607, L119 (2004)
- High-Redshift Radio-quiet Quasars: Exploring the Parameter Space of Accretion Models. I. Hot, Semispherical Flow. Malgorzata A. Sobolewska, Aneta Siemiginowska, & Piotr T. Zycki. 608, 80 (2004)
- High-Resolution X-Ray Spectroscopy of the Fe K Complex in IC 4329A. Barry McKernan & Tahir Yaqoob. 608, 157 (2004)
- X-Ray Nondetection of the Ly α Emitters at $z \sim 4.5$. J. X. Wang, J. E. Rhoads, S. Malhotra, S. Dawson, D. Stern, A. Dey, T. M. Heckman, C. A. Norman, & H. Spinrad. 608, L21 (2004)
- A Survey of Extended Radio Jets with *Chandra* and the *Hubble Space Telescope*. Rita M. Sambruna, Jessica K. Gambill, L. Maraschi, F. Tavecchio, R. Cerutti, C. C. Cheung, C. Megan Urry, & G. Chartas. 608, 698 (2004)
- X-RAYS: GALAXIES: CLUSTERS**
- Observations of A4059 with the *Chandra*, *Hubble Space Telescope*, and the Very Large Array: Unraveling a Complex Cluster/Radio Galaxy Interaction. Yun-Young Choi, Christopher S. Reynolds, Sebastian Heinz, Jessica L. Rosenberg, Eric S. Perlman, & Jongmann Yang. 606, 185 (2004)
- Very High Iron Abundance of the Hot Gas around the cD Galaxy of the MKW 4 Cluster. Yasushi Fukazawa, Naomi Kawano, & Kengo Kawashima. 606, L109 (2004)
- Evolution of the Cluster X-Ray Luminosity Function. C. R. Mullis, A. Vikhlinin, J. P. Henry, W. Forman, I. M. Gioia, A. Hornstrup, C. Jones, B. R. McNamara, & H. Quintana. 607, 175 (2004)
- Complex Structure of Galaxy Cluster A1689: Evidence for a Merger from X-Ray Data? K. E. Andersson & G. M. Madejski. 607, 190 (2004)
- A *Chandra* Study of the Core of the Nearby Cluster A576. Joshua C. Kempner & Laurence P. David. 607, 220 (2004)
- X-Ray and Optical Filaments in M87. William B. Sparks, Megan Donahue, Andrés Jordán, Laura Ferrarese, & Patrick Côté. 607, 294 (2004)
- A Systematic Study of Radio-induced X-Ray Cavities in Clusters, Groups, and Galaxies. L. Birzan, D. A. Rafferty, B. R. McNamara, M. W. Wise, & P. E. J. Nulsen. 607, 800 (2004)
- Ultralow Iron Abundances in the Distant Hot Gas in Galaxy Groups. David A. Buote, Fabrizio Brighenti, & William G. Mathews. 607, L91 (2004)
- X-Ray Triple Rings around the M87 Jets in the Central Virgo Cluster. Hua Feng, Shuang-Nan Zhang, Yu-Qing Lou, & Ti-Pei Li. 607, L95 (2004)
- Nonthermal Hard X-Ray Emission in Galaxy Clusters Observed with the *BeppoSAX* Phoswich Detector System. J. Nevalainen, T. Oosterbroek, M. Bonamente, & S. Colafrancesco. 608, 166 (2004)
- XMM-Newton* Observation of the Merging Galaxy Cluster A1644. Thomas H. Reiprich, Craig L. Sarazin, Joshua C. Kempner, & Eric Tittley. 608, 179 (2004)
- The Dipole Anisotropy of the First All-Sky X-Ray Cluster Sample. Dale D. Kocevski, Christopher R. Mullis, & Harald Ebeling. 608, 721 (2004)
- A Deep *Chandra* Observation of the Distant Galaxy Cluster MS 1137.5+6625. Laura Grego, Jan M. Vrtelek, Leon Van Speybroeck, Laurence P. David, William Forman, John E. Carlstrom, Erik D. Reese, & Marshall K. Joy. 608, 731 (2004)
- X-RAYS: GENERAL**
- Non-LTE Curves of Growth of X-Ray Absorption Lines. Kuniaki Masai & Manabu Ishida. 607, 76 (2004)
- Chandra* Observations of the “Dark” Moon and Geocoronal Solar Wind Charge Transfer. B. J. Wargelin, M. Markevitch, M. Juda, V. Kharchenko, R. Edgar, & A. Dalgarno. 607, 596 (2004)
- A Comprehensive Study of the X-Ray Bursts from the Magnetar Candidate 1E 2259+586. Fotis P. Gavril, Victoria M. Kaspi, & Peter M. Woods. 607, 959 (2004)
- An X-Ray Measurement of Titan’s Atmospheric Extent from Its Transit of the Crab Nebula. Koji Mori, Hiroshi Tsumemi, Haruyoshi Katayama, David N. Burrows, Gordon P. Garmire, & Albert E. Metzger. 607, 1065 (2004)
- Laboratory Measurements of 3 \rightarrow 2 X-Ray Emission Lines of Ne-like Ni xix. M. F. Gu, P. Beiersdorfer, G. V. Brown, H. Chen, K. R. Boyce, R. L. Kelley, C. A. Kilbourne, F. S. Porter, & S. M. Kahn. 607, L143 (2004)
- On Multiwavelength Emission of Large-Scale Quasar Jets. Lukasz Stawarz, Marek Sikora, Michał Ostrowski, & Mitchell C. Begelman. 608, 95 (2004)
- Absorption in Gamma-Ray Burst Afterglows. G. Stratta, F. Fiore, L. A. Antonelli, L. Piro, & M. De Pasquale. 608, 846 (2004)
- Compton Echoes from Gamma-Ray Bursts: Unveiling Misaligned Jets in Nearby Type Ib/c Supernovae. Enrico Ramirez-Ruiz & Piero Madau. 608, L89 (2004)
- X-RAYS: INDIVIDUAL**
- Constellation Name: Hercules X-1**
- Fine-Tuning the Accretion Disk Clock in Hercules X-1. M. Still & P. Boyd. 606, L135 (2004)
- NGC Number: NGC 346**
- An X-Ray Investigation of the NGC 346 Field in the Small Magellanic Cloud. III. *XMM-Newton* Data. Yaël Nazé, Jean Manfroid, Ian R. Stevens, Michael F. Corcoran, & Aaron Flores. 608, 208 (2004)
- Alphanumeric: GRB 980425**
- Chandra* Observations of the X-Ray Environments of SN 1998bw/GRB 980425. C. Kouveliotou, S. E. Woosley, S. K. Patel, A. Levani, R. Blandford, E. Ramirez-Ruiz, R. A. M. J. Wijers, M. C. Weisskopf, A. Tennant, E. Pian, & P. Giommi. 608, 872 (2004)
- Alphanumeric: RX J1605.3+3249**
- A Strong, Broad Absorption Feature in the X-Ray Spectrum of the Nearby Neutron Star RX J1605.3+3249. M. H. van Kerkwijk, D. L. Kaplan, M. Durant, S. R. Kulkarni, & F. Paerels. 608, 432 (2004)
- X-RAYS: ISM**
- X-Ray Scattering Halos from the Galactic Center: Implications for Diffuse Emission around Sagittarius A*. Jonathan C. Tan & B. T. Draine. 606, 296 (2004)
- A Hot Envelope around the Southern Coalsack: X-Ray and Far-Ultraviolet Observations. B-G Andersson, David C. Knauth, S. L. Snowden, R. L. Shelton, & Peter G. Wänner. 606, 341 (2004)
- Raising the Dead: Clues to Type Ia Supernova Physics from the Remnant 0509–67.5. Jessica S. Warren & John P. Hughes. 608, 261 (2004)

- Constraining the X-Ray Luminosities of Asymptotic Giant Branch Stars: TX Camelopardalis and T Cassiopeia. *Joel H. Kastner & Noam Soker.* 608, 978 (2004)
- X-RAYS: STARS**
- Diagnostics of Neutron Star and Black Hole X-Ray Binaries with X-Ray Shot Widths. *Hua Feng, T. P. Li, & S. N. Zhang.* 606, 424 (2004)
- Variations in the Spin Period of the Radio-Quiet Pulsar 1E 1207.4–5209. *Vyacheslav E. Zavlin, George G. Pavlov, & Divas Sanwal.* 606, 444 (2004)
- Coronal Variability in the Young Cluster NGC 2516. *S. J. Wolk, F. R. Harnden, Jr., S. S. Murray, N. R. Adams, F. Damiani, E. Flaccomio, G. Micela, S. Sciortino, & R. D. Jeffries.* 606, 466 (2004)
- Monitoring *Chandra* Observations of the Quasi-persistent Neutron Star X-Ray Transient MXB 1659–29 in Quiescence: The Cooling Curve of the Heated Neutron Star Crust. *Rudy Wijnands, Jeroen Homan, Jon M. Miller, & Walter H. G. Lewin.* 606, L61 (2004)
- Doppler Shifts and Broadening and the Structure of the X-Ray Emission from Algol. *Sun Mi Chung, Jeremy J. Drake, Vinay L. Kashyap, Li Wei Lin, & Peter W. Ratcliff.* 606, 1184 (2004)
- Evidence of Class Transitions in GRS 1915+105 from Indian X-Ray Astronomy Experiment Data. *Sandip K. Chakrabarti, A. Nandi, Asit Choudhury, & Utpal Chatterjee.* 607, 406 (2004)
- Magnetic Floods: A Scenario for the Variability of the Microquasar GRS 1915+105. *M. Tagger, P. Varnière, J. Rodriguez, & R. Pellat.* 607, 410 (2004)
- Spectral Features in the Thermal Emission from Isolated Neutron Stars: Dependence on Magnetic Field Strengths. *Wynn C. G. Ho & Dong Lai.* 607, 420 (2004)
- The Rates of Hypernovae and Gamma-Ray Bursts: Implications for Their Progenitors. *Ph. Podsiadlowski, P. A. Mazzali, K. Nomoto, D. Lazzati, & E. Cappellaro.* 607, L17 (2004)
- Chandra* Observation of the Trifid Nebula: X-Ray Emission from the O Star Complex and Actively Forming Pre-Main-Sequence Stars. *Jeonghee Rho, Solange V. Ramirez, Michael F. Corcoran, Kenji Hamaguchi, & Bertrand Lefloch.* 607, 904 (2004)
- Pronounced Long-Term Flux Variability of the Anomalous X-Ray Pulsar 1E 1048.1–5937. *S. Mereghetti, A. Tiengo, L. Stella, G. L. Israel, N. Rea, S. Zane, & T. Oosterbroek.* 608, 427 (2004)
- A Strong, Broad Absorption Feature in the X-Ray Spectrum of the Nearby Neutron Star RX J1605.3+3249. *M. H. van Kerkwijk, D. L. Kaplan, M. Durant, S. R. Kulkarni, & F. Paerels.* 608, 432 (2004)
- Detection of Nitrogen and Neon in the X-Ray Spectrum of GP Comae Berenices with *XMM/Newton*. *Tod E. Strohmayer.* 608, L53 (2004)
- A Transition to a Low/Soft State in the Ultraluminous Compact X-Ray Source Holmberg II X-1. *Gulab C. Dewangan, Takamitsu Miyaji, Richard E. Griffiths, & Ingo Lehmann.* 608, L57 (2004)
- A Deep *Chandra* X-Ray Observation of the Rich Young Cluster NGC 6530. I. The X-Ray Source Catalog and the Cluster Population. *F. Damiani, E. Flaccomio, G. Micela, S. Sciortino, F. R. Harnden, Jr., & S. S. Murray.* 608, 781 (2004)
- The Effects of Rotation on Thermal X-Ray Afterglows Resulting from Pulsar Glitches. *C. Y. Hui & K. S. Cheng.* 608, 935 (2004)
- Positional Uncertainties and Detection Limits of *ROSAT* X-Ray Sources. *Thomas R. Ayres.* 608, 957 (2004)